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Rules and Regulations SWB-7

WATER QUALITY STANDARDS

Interstate Waters
Lake Michigan and
Little Calumet River, Grand Calumet River
and Wolf Lake

Bureau W

Criteria adopted September 6, 1966
Implementation Plan submitted September 20, 1967

This volume is bound without no. 16-17 or January 27, 1968
March 5, 1968
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Approved by U. S. Department of Interior January 27, 1968

Sanitary Water Board reapproval March 5, 1968

TABLE OF CONTENTS

Illinois Sanitary Water Board
Rules and Regulations SWB-7
Lake Michigan, Little Calumet & Grand Calumet Rivers, and Wolf Lake

	Page
Authority and Statement of Policy	1
Introduction - Water Quality Criteria - Rule 1.01 and Rule 1.02	2
1. Purpose of Criteria and Water Use	2
2. Laboratory Control Standard Methods	2
Lake Michigan Open Water - Rule 1.01	3-5
Lake Michigan Shore Water - Rule 1.02	6-7
Water Quality Criteria and Water Use - Rule 1.03 through Rule 1.05	8
Stream Criteria - Little Calumet River - Rule 1.03	9-10
Stream Criteria - Wolf Lake - Rule 1.04	11-12
Stream Criteria - Grand Calumet River - Rule 1.05	13-14
Implementation and Enforcement Plan - Rule 1.06	15
1. Authority	15
2. Criteria adopted SWB-7	15
3. Minimum Flows	15
4. Temperature Change	15
5. Surveillance	15
6. Operator Certification, reports and inspection	15
7. Municipal Treatment Improvement	15
8. Industrial Treatment Improvement	15
9. Combined Sewers - nutrients - tertiary treatment	16
10. Treatment Requirements and Effluent Criteria	16
a. Deoxygenating Waste	16
b. Basic Treatment	16
c. Hazardous Product Storage	16-17
11. Guidelines Range of Treatment	17
12. Typical Project Schedule	18
13. Enforcement Action	18
14. Schedule Municipal Treatment	18
Table	19
15. Schedule Industrial Treatment	18
Table	20
Effective Dates - Rule 2.01, 2.02 & 2.03	21

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STATE OF ILLINOIS

SANITARY WATER BOARD

RULES AND REGULATIONS ESTABLISHING WATER QUALITY CRITERIA FOR LAKE MICHIGAN, LITTLE CALUMET RIVER, GRAND CALUMET RIVER AND WOLF LAKE SWB-7

FOREWORD

AUTHORITY

Pursuant to the authority contained in Sec. 6, Paragraphs (b) and (f) of "An Act to establish a Sanitary Water Board and to control, prevent, and abate pollution of the streams, lakes, ponds, and other surface and underground waters in the State" (approved and in force July 12, 1951, Par. 145.6, Ch. 19, Ill. Rev. Stat. 1965), the Sanitary Water Board adopts the following Rules and Regulations.

STATEMENT OF POLICY

In the above Act, it has been declared to be the public policy of this State to maintain reasonable standards of purity of the waters of the State consistent with their use for domestic and industrial water supplies, for the propagation of wildlife, fish and aquatic life, and for domestic, agricultural, industrial, recreational and other legitimate uses, including their use in the final distribution of the water-borne wastes of our economy. It has also been declared to be the public policy of this State to provide that no waste be discharged into any waters of the State without first being given the degree of treatment necessary to prevent the pollution of such waters.

Rules and Regulations SWB-7

ILLINOIS SANITARY WATER BOARD

Lake Michigan

Water Quality Criteria

ARTICLE I

Water Quality Criteria, Rule 1.01 through Rule 1.02, contained herein will be applied to Lake Michigan waters bordering on the Illinois shore between the Wisconsin border and the Indiana border.

Lake Michigan is used for industrial and public water supply, for commercial and sport fishing, and for recreation including boating and public bathing beaches. The criteria provides for two sectors:

(1) Lake Michigan open water is the source of public water supply. Control points for evaluating the water quality will be the public water supply intakes and/or the untreated lake water delivery at the municipal water filtration plants.

(2) Lake Michigan shore water is used for recreation including boating and swimming. Control points for evaluating water quality will be existing sampling points at the various municipally operated bathing beaches.

"Standard Methods for the Examination of Water and Waste Water," Twelfth Edition, 1965, American Public Health Association, Inc. should be employed where applicable, but it is recognized that other approved methods may be required in judging some of the criteria. The Great Lakes-Illinois River Basin Project Laboratory, Federal Water Pollution Control Administration shall referee or designate any departure from "Standard Methods."

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Rules and Regulations SWB-7

ILLINOIS SANITARY WATER BOARD

WATER QUALITY CRITERIA

LAKE MICHIGAN OPEN WATER

Designation: Rule 1.01

Control Points - Municipal Filtration Plants and Water Intakes

Coliform Bacteria - Annual Average (Arithmetic) - not more than 200 MPN/100 ml
Single Daily Value or Average (1) - not more than 2,500 MPN/100 ml

Fecal Streptococci - not more than 25 per 100/ml

Turbidity - No turbidity of other than natural origin that will cause substantial visible contrast with the natural appearance of the water.

Odor - No obnoxious odor of other than natural origin.

Oil - Substantially free of visible floating oil.

Floating Solids and Debris - Substantially free of floating solids and debris from other than natural sources.

Bottom Deposits - Substantially free of contaminants that will: (1) adversely alter the composition of the bottom fauna; (2) interfere with the spawning of fish or their eggs; (3) adversely change the physical or chemical nature of the bottom.

True Color - Annual Average - not more than 5 units
Single Daily Value or Average - not more than 15 units

Threshold Odor (2) - Daily Average Number not more than 4
Single Value Number not more than 8

Temperature - not more than 85° F

pH - Units - Annual Median - within range 8.1 - 8.4
Daily Median - within range 7.7 - 9.0

Dissolved Oxygen - Annual Average - not less than 90% saturation
Single Value - not less than 80% saturation

LAKE MICHIGAN OPEN WATER - Rule 1.01 (continued)

Ammonia Nitrogen (N) - Annual Average 0.02 mg/l
Single Daily Value or Average 0.05 mg/l

Total Nitrogen (N) (4) 0.4 mg/l

Methylene Blue Active Substance - Annual Average - not more than 0.05 mg/l
Single Daily Value or Average
- not more than 0.20 mg/l

Chlorides (CL) - mg/l	1965	1970	1980	1990	2000
Annual Average - not more than	8	9	10	11	12

Single Daily Value or Average
- not more than 15 mg/l (through 1970)

Cyanides (CN) - Single Value - not more than 0.025 mg/l

Fluorides (F) - Annual Average - not more than 1.0 mg/l
Single Daily Value or Average - not more than 1.3 mg/l

Dissolved Iron (Fe) - Annual Average - not more than 0.15 mg/l
Single Daily Value or Average - not more than 0.30 mg/l

Phenol-like Substances - Annual Average - not more than 0.001 mg/l
Single Value - not more than 0.003 mg/l

Sulfates (SO_4) - mg/l	1965	1970	1980	1990	2000
Annual Average - not more than	23	24	26	28	30

Single Daily Value or Average
- not more than 50 mg/l (through 1970)

Total Phosphates (PO_4) - Annual Average - not more than 0.03 mg/l
Single Daily Value or Average-not more than 0.04 mg/l

Filtrable Residue (Total Dissolved Solids)	1965	1970	1980	1990	2000
Annual Average mg/l	162	165	172	179	186

Single Daily Value or Average
- not more than 200 mg/l (through 1970)

Miscellaneous Trace Contaminants and Radionuclides - Shall not be present in concentrations that will prevent meeting PHS 1962 Drinking Water Standards after conventional treatment.

LAKE MICHIGAN OPEN WATER - Rule 1.01 (continued)

Notes: mg/l symbol for milligrams per liter and approximates the older term, parts per million.

(1) If more than one sample per day is examined, the limit shall be the daily average. If only one sample per day is taken, the single value shall govern.

(2) The Chicago South District Filtration Plant Control Laboratory will be the reference laboratory for Threshold Odor.

Rules and Regulations SWB-7

ILLINOIS SANITARY WATER BOARD

WATER QUALITY CRITERIA

LAKE MICHIGAN SHORE WATER

Designation: Rule 1.02

Control Points - Existing Sampling Points at Bathing Beaches

Bacteria - Number per 100 milliliter by Membrane Filter Techniques

(a) The number of bacteria shall be the Arithmetic Average of the last five consecutive samples results.
(b) Satisfactory area if MF Coliform are less than 1000 and MF Fecal Streptococci are less than 100.
(c) Satisfactory area if MF Coliforms are from 1000 to 5000 and MF Fecal Streptococci are less than 20.
(d) A single sample results of over 100,000 Coliforms shall require immediate investigation as to the cause. Items to be considered in the judgment of cause and action to be taken include the sanitary survey, winds, currents and weather conditions.

Turbidity - No turbidity of other than natural origin that will cause substantial visible contrast with the natural appearance of water.

Odor - No obnoxious odor of other than natural origin.

Oil - Substantially free of visible floating oil.

Floating Solids and Debris - Substantially free of floating solids and debris from other than natural sources.

Bottom Deposits - Substantially free of muck and debris of other than natural origin.

True Color - Annual Average - not more than	5 units
Single Daily Value or Average - not more than	15 units
Temperature - not more than	85°F
pH Units - Daily Median - within range	7.0 - 9.0
Dissolved Oxygen - Annual Average - not less than	90% saturation
Single Value - not less than	80% saturation
Ammonia Nitrogen (N) - Annual Average - not more than	0.05 mg/l
Single Daily Value or Average - not more than	0.12 mg/l

LAKE MICHIGAN SHORE WATER - Rule 1.02 (continued)

Methylene Blue Active Substance	- Annual Average - not more than	0.02 mg/l
	Single Daily Value or Average - not more than	0.05 mg/l
Cyanides (CN)	- Single Value - not more than	0.025 mg/l
Phenol-like Substances	- not more than	0.05 mg/l
Total Phosphates (PO_4)	- Annual Average - not more than	0.03 mg/l
	Single Daily Average or Value - not more than	0.04 mg/l

Miscellaneous Trace Contaminants and Radionuclides - Shall not be present in concentrations that will prevent meeting the PHS 1962 Drinking Water Standards after conventional treatment.

Note: mg/l symbol for milligrams per liter and approximates the older term, parts per million.

If more than one sample per day is examined, the limit shall be the daily average. If only one sample per day is taken, the single value shall govern.

Rules and Regulations SWB-7

ILLINOIS SANITARY WATER BOARD

Calumet River Area

Water Quality Criteria

Water Quality Criteria, Rule 1.03 through Rule 1.05, contained herein will be applied to the interstate waters of Wolf Lake, the Little Calumet River, and the Grand Calumet River.

The Little Calumet River is used for boating, and limited fishing. Both activities will increase with water quality improvements. (Wolf Lake is used for recreation including fishing, boating and public bathing beaches.) The Grand Calumet is used for industrial water supply, for transportation, and for carriage of municipal and industrial wastes. The criteria provides for three sectors:

(1) Little Calumet River,with control points for evaluating the water quality at the Wentworth Avenue Bridge and at 159th Bridge east of the Calumet Expressway, to the Calumet-Sag Channel.

(2) Wolf Lake with control point for evaluating the water quality at the Illinois-Indiana state line - Wolf Lake culvert and at the outlet to the Calumet River.

(3) Grand Calumet River with control points for evaluating the water quality at the Baltimore & Ohio Chicago Terminal Railroad Bridge.

"Standard Methods for the Examination of Water and Waste Water," Twelfth Edition, 1965, American Public Health Association, Inc. should be employed where applicable, but it is recognized that other approved methods may be required in judging some of the criteria. The Great Lakes-Illinois River Basin Project Laboratory, Federal Water Pollution Control Administration shall referee or designate any departure from "Standard Methods."

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Rules and Regulations SWB-7

ILLINOIS SANITARY WATER BOARD

WATER QUALITY CRITERIA

LITTLE CALUMET RIVER

Designation: Rule 1.03

Control Point - Wentworth Avenue Bridge & 159th St. east of Calumet Expressway.

Coliform Bacteria - MPN/100 ml

Maximum Value 5000 except during periods of storm water runoff.

Fecal Streptococci - Number/100 ml

Maximum value 500 except during periods of storm water runoff.

Turbidity - No turbidity of other than natural origin that will cause substantial visible contrast with the natural appearance of the water.

Odor - No obnoxious odors of other than that of natural origin.

Oil - Substantially free from visible floating oil.

Floating Solids and Debris - Substantially free of floating solids and debris from other than natural sources.

Bottom Deposits - Substantially free of sludge banks.

True Color - Annual average - not more than	25 units
Single Daily Value or Average - not more than	50 units
Temperature - Single Daily Value or Average - not more than	90° F
pH - Units - Annual median within range	6.5 - 9.0
Dissolved Oxygen - Average (May through September) - not less than	4.0 mg/l
Single Daily Value or Average - not less than	2.0 mg/l
BOD - Single Daily Value or Average - not more than	10.0 mg/l
Ammonia Nitrogen - Single Daily Value or Average - not more than	1.5 mg/l

LITTLE CALUMET RIVER - Rule 1.03 (continued)

Methlene Blue Active Substance - Single Daily Value or Average - not more than	0.5 mg/l
Cyanides - Single Daily Value or Average - not more than	0.025 mg/l
Phenol-like Substances - Single Daily Value or Average - not more than	0.02 mg/l

Note: mg/l symbol for milligrams per liter and approximates the older term, parts per million.

(1) If more than one sample per day is examined, the limit shall be the daily average. If only one sample per day is taken, the single value shall govern.

ILLINOIS SANITARY WATER BOARD

WATER QUALITY CRITERIA

WOLF LAKE

Designation: Rule 1.04

Control Point - Illinois-Indiana State Line-Wolf Lake Culvert (1) and outlet to Calumet River.

Bacteria - Number per 100 milliliter by Membrane Filter Techniques

(a) The number of bacteria shall be the Arithmetic Average of the last five consecutive sample results.
(b) Satisfactory area if MF Coliform are less than 1000 and MF Fecal Streptococci are less than 100.
(c) Satisfactory area if MF Coliforms are from 1000 to 5000 and MF Fecal Streptococci are less than 20.
(d) A single sample result of over 100,000 Coliforms shall require immediate investigation as to the cause. Items to be considered in the judgment of cause and action to be taken include the sanitary survey, winds, currents and weather conditions.

Turbidity - No turbidity of other than natural origin that will cause substantial visible contrast with the natural appearance of water.

Odor - No obnoxious odor of other than natural origin.

Oil - Substantially free of visible floating oil.

Floating Solids and Debris - Substantially free of floating solids and debris from other than natural sources.

Bottom Deposits - Substantially free of muck and debris of other than natural origin.

True Color - Annual Average - not more than	5 units
Single Daily Value or Average - not more than	15 units
Temperature - Not more than	85° F
pH - Units - Daily Median - Within range	7.0 - 9.0

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WOLF LAKE - Rule 1.04 (continued)

Dissolved Oxygen -	Annual Average - not less than	90% saturation
	Single Value - not less than	80% saturation
Ammonia Nitrogen (N) -	Annual Average - not more than	0.05 mg/l
	Single Daily Value or Average - not more than	0.12 mg/l
Methylene Blue Active Substance -	Annual Average - not more than	0.02 mg/l
	Single Daily Value or Average - not more than	0.05 mg/l
Cyanides (CN) -	Single Value - not more than	0.025 mg/l
Total Phosphates (PO_4) -	Annual Average - not more than	0.03 mg/l
	Single Daily Average or Value - not more than	0.04 mg/l

Note: mg/l symbol for milligrams per liter and approximates the older term, parts per million.

(1) Criteria apply at beaches as well as at Toll Road Bridge Station.

If more than one sample per day is examined, the limit shall be the daily average. If only one sample per day is taken, the single value shall govern.

ILLINOIS SANITARY WATER BOARD

WATER QUALITY CRITERIA

GRAND CALUMET RIVER (1)

Designation: Rule 1.05

Control Points - Baltimore and Ohio Chicago Terminal Railroad Bridge.

Coliform Bacteria MPN/100 ml.
Maximum value 5000 except during periods of storm water runoff.

Fecal Streptococci - Number /100 ml.
Maximum value 500 except during periods of storm water runoff.

Odor - No obnoxious odors of other than that of natural origin.

Oil - Substantially free of visible floating oil.

Floating Solids and Debris - Substantially free of floating solids and debris from other than natural sources.

Bottom Deposits - Substantially free of sludge banks.

True Color - Annual average	25 units
Single Daily Value or Average (not more than)	50 units
Temperature - Not more than	90° F.
pH - Units - Annual Median - within range	6.5 - 9.0
Dissolved Oxygen - Average (May through September)	3.0 mg/l
Single Daily Value or Average Not less than	1.0 mg/l
BOD - Single Value - Less than	10.0 mg/l
Ammonia-Nitrogen - Single Value Not more than	5.0 mg/l

GRAND CALUMET RIVER (1) - Rule 1.05 (continued)

Methylene Blue Active Substances - Single Value Not more than	0.5 mg/l
Chlorides - Annual Average	75 mg/l
Single Daily Value or Average Not more than	125 mg/l
Phenol-like substances - Single Value Not more than	0.020 mg/l
Filterable Residue (Total Dissolved Solids) Single Value - Not more than	500 mg/l

Note: mg/l symbol for milligrams per liter and approximates the older term, parts per million.

(1) It is recognized that the Grand Calumet River at the State Line is essentially treatment plant effluent from Hammond due to the nature of the natural drainage flow.

In addition to the concentration limits, the pounds per day of each constituent shall be limited to the loads that would occur at these concentrations with a flow of 20 cfs.

Criteria considers only existing conditions. If the proposed dam changes conditions, then the criteria should be reconsidered.

(2) If more than one sample per day is examined, the limit shall be the daily average. If only one sample per day is taken, the single value shall govern.

RULE 1.06 IMPLEMENTATION AND ENFORCEMENT PLAN

1. The Illinois Sanitary Water Board, under the 1951 Sanitary Water Board Act as amended (Ch. 19, Par. 145.1 - 145.18, IRS 1965), has the responsibility to control and prevent pollution in the waters of this State exclusive of the area embraced by Metropolitan Sanitary District of Greater Chicago. Authority to adopt and enforce water quality standards within the Metropolitan Sanitary District is contained in the recently adopted HB 1177, 75th General Assembly.

2. The Board adopted the criteria, Rules and Regulations SWB-7, September 6, 1966 as standards of water quality for the waters of Lake Michigan, Little Calumet River, Grand Calumet River and Wolf Lake. All waters will be required to meet the standards for the appropriate public and industrial water supply, aquatic life, recreational and agricultural uses. Compliance with these standards will enhance the quality of waters within these streams.

Waters whose existing quality is better than the established standards as of the date which such standards become effective will be maintained in their present high quality within the powers granted by the "Illinois" water pollution control statutes. Such waters will not be lowered in quality unless and until it has been affirmatively demonstrated to the Federal Water Pollution Control Administration that such change is justifiable as a result of necessary economic or social development and will not interfere with or become injurious to, any appropriate beneficial uses made of, or presently possible in, such waters.

3. The minimum weekly flow, which occurs once in 10 years, will be used in applying the standards. The Board plans to require compliance with the bacteriological standards for recreation during the recreational season of April through October inclusive. It is recognized that there are uncontrollable sources of bacterial pollution other than that of sewage treatment plant effluents.

4. Drastic or sudden temperature changes will not be permitted. The Board will insist upon controlled changes in temperature not to exceed 2 deg. F. per hour, nor more than a 5 deg. cumulative change from natural water temperature.

5. The Board collects samples bimonthly from various locations on streams in the Calumet Area. Additional stations are being added as needed. Laboratory analyses reports are also received or available from the FWPCA, Chicago Park Board, Chicago Water Department and Metropolitan Sanitary District.

6. Rules and Regulations, SWB 2, require the certification of waste treatment plant operators. The prompt and regular submission of monthly operational reports is required to enable evaluation of effluent quality. Certification and record of operation report submissions are recorded in a computer system to facilitate periodic data processing. The frequency of inspections of wastewater treatment plants by representatives of the Board have been increased and will be increased more to insure compliance with the standards.

Editors Note: Changes requested by U. S. Department of Interior are <u>italicized</u>.

7. Secondary treatment resulting in effluents ranging from 20 to 40 mg/l five day BOD and 25 to 45 mg/l suspended solids must be provided by all municipalities, including disinfection of the effluent.

8. All industries will be required to provide a degree of treatment or control that is equivalent to that required of municipalities. In some instances supplemental or advanced waste treatment in excess of secondary treatment may be necessary.

9. It is the plan of the Board that, where needed, the control of pollution caused by combined sewer overflow or storm flow bypassing at sewage treatment works be provided at the time of improvement or expansion of treatment works. The separation of combined sewers or special treatment works in some instances, the reduction of nutrients and provision of tertiary treatment should be accomplished, where deemed necessary, within the next ten years, or as practical technical methods are developed.

10. Treatment Requirements and Effluent Criteria

In order to establish a basis for treatment works design, municipal and industry representatives and consultants frequently inquire regarding the limits or effluent standards that must be met. The adoption of stream water quality criteria as required by the Federal Water Quality Act of 1965 (PL 89-234 amendments to PL 84-660; 33 U.S.C. 466) emphasizes the need to relate stream quality to effluent quality and treatment requirements. The expressed goals established by this Act are to protect and upgrade water quality; any wastes amenable to treatment or control must receive the best practicable treatment or control prior to discharge into any interstate water. The same goals have been, and continue to be, basic under the Sanitary Water Board Act for all waters of Illinois. Both the Federal Law and the Illinois Act prohibit the use of any stream or portion thereof for the sole or principal purpose of transporting wastes.

a. All municipal or industrial facilities for treatment of deoxygenating waste shall provide at least secondary biological treatment, or advanced waste treatment, adequate to reduce the organic pollution load of the treatment works effluent at the final treatment structure in accordance with effluent guidelines in paragraph 11, below. A final treatment structure is considered the last point of access before discharge to waters of the State. Effluents shall meet all criteria expressed in Item b below.

b. All facilities for the treatment of sewage, industrial wastes, or other wastes shall provide for the following:

1) Substantially complete removal of settleable solids.

2) Removal of all floating debris, oil, grease, scum, or sludge solids.

3) Removal of color, odor, or turbidity to below obvious levels.

4) Removal of heavy metals, or of toxic and odor-producing substances in accordance with the levels of constituents and properties determined by the Board.

c. Storage facilities for materials which are hazardous to health and welfare, and for oils, gases, fuels, or other materials capable of causing water pollution if accidentally discharged, shall be located so as to minimize or prevent any spillage or leakage that might result in water pollution. Structures and devices to contain spillage, such as catchment areas, relief vessels, or entrapment-dikes, should be installed at existing facilities, shall be installed at all new facilities, and shall be required following any discharge resulting in pollution.

11. Guidelines Regarding Range of Treatment

a. Secondary treatment resulting in effluents ranging from 20 to 40 mg/l five-day BOD and 25 to 45 mg/l suspended solids is acceptable on Lake Michigan. Tertiary or other advance treatment or modifications of conventional treatment will be specified for all intermittent streams and small or low flow streams, and shall include effluent disinfection at least through the recreational season of April through October.

b. Permissive Treatment & Effluent Requirements
Based on Average Strength Municipal Wastes

Type Treatment	BOD or ODI Reduction Percent	Effluent BOD, ODI mg/l	Suspended Solids mg/l	Type Facilities	Stream Dilution Requirements
Secondary	85	30	35	Trickling Filter	Lake Michigan
Secondary	90	20	25	*Activated Sludge	2 to 1
	*(or trickling filter & supplemental treatment)				
Tertiary	95	10	13	Secondary plus Supplemental	1 to 1

Disinfection with up to 1 mg/l of chlorine residual in the effluent to reduce Coliform to 5,000 or less, where necessary.

Bypass flows in excess of waste treatment works capacity shall be given primary treatment, and chlorination if necessary, in auxilliary facilities.

c. Within design limitations, operation shall be of such quality to obtain the best possible degree of treatment from all treatment works. Every effort must be made to eliminate all system bypasses and overflows, otherwise measures must be taken to provide treatment units such as lagoons, detention or holding basins, and chlorination. Installation of new combined sewers are prohibited. Existing combined sewer systems should be patrolled; overflow regulating devices shall be adjusted to convey the maximum practicable amount of combined flow to treatment facilities. Excess infiltration into the sewer system should be eliminated to keep dry weather flow within design limits of conduits and treatment works.

12. The Board will follow Typical Project Completion Schedules listed below:

    a. Chlorination Facilities

        1) Completion of plans and specifications - 12 months before completion date.

        2) Award of construction contracts - 6 months before completion date.

    b. Treatment Works - Municipalities less than 10,000 Population and Industries

        1) Completion of plans and specifications - 18 months before completion date.

        2) Award of construction contracts - 12 months before completion date.

    c. Treatment Works - Municipalities above 10,000 Population

        1) Completion of plans and specifications - 30-33 months before completion date.

        2) Award of construction contracts - 21-24 months before completion date.

13. If it appears at any time prior to the above dates that there will not be compliance with the timetables, the Board will hold administrative hearings and issue orders to submit schedule for abatement of pollution with a minimum time for completion of waste treatment facilities. When a waste producer fails to comply with an order, the Board will initiate legal action through the Attorney General for enforcement of the order in the appropriate Court.

14. The Board will require and has scheduled construction of municipal treatment works improvements in accordance with the timetable, page 19.

15. All industries with effluent discharge will be required to construct additional or improved treatment works by December 1968, and in accordance with the timetable, page 20. All industries under jurisdiction of the Metropolitan Sanitary District of Greater Chicago tributary to waters included in these standards will be in compliance on or before December 1968.

16. The Little Calumet River criteria Rule 1.03 apply from the junction with the Calumet-Sag Channel to the Indiana State Line.

STATUS OF MUNICIPAL WASTE FACILITIES
TRIBUTARY TO LAKE MICHIGAN

Municipality Sanitary District	1960 Pop.	Receiving Stream	Type Sewer System Treat. & Design P.E.	Date Built	Additional Requirements	Approved Schedule for Completion	
Lansing	20,926	Little Calumet River	Sep. & Combined Secondary & Cl_2 - 25,000	1937 1966	Storm Flow Control & Permanent Cl_2	December, 1968	
North Shore S.D.		Lake Michigan	Plants and locations indicated by * below				
Cary Ave.	7,120	Lake Michigan	Sep. & Combined Primary & Cl_2 - 6500	1931	Secondary or Removal	July, 1972	*
Lake Bluff	3,470	Lake Michigan	Sep. & Combined Primary & Cl_2 - 1400	1922 1962	Secondary or removal	July, 1972	*
Lake Forest	10,860	Lake Michigan	Sep. & Combined Primary & Cl_2 - 8000	1925 1957	Secondary or removal	July, 1972	*
N. Chicago	20,510	Lake Michigan	Sep. & Combined Secondary & Cl_2 - 20,000	1927	Expansion & nutrient reduction	July, 1972 July,,1977	*
Park Plant	5,120	Lake Michigan	Sep. & Combined Primary & Cl_2 - 6,000	1922 1961	Secondary or removal	July, 1972	*
Ravine Plant	2,500	Lake Michigan	Sep. & Combined Primary & Cl_2 - 4,500	1922	Secondary or removal	July, 1972	
Waukegan Plant	65,000	Lake Michigan	Sep. & Combined Secondary & Cl_2 - 74,500	1925 1960	Storm Water Control & Nutrient reduction	July, 1977 July, 1977	*
Fort Sheridan		Lake Michigan	Sep. Sewer Secondary & Cl_2 - 12,500	1942	Nutrient Reduction	July, 1977	
Great Lakes Naval Center		Lake Michigan	Sep. Sewer Sec. & Cl_2 - 40,000		Water Tr. Residue & Nutrient reduction	July, 1970 July, 1977	

*Final planning delayed pending State decision on Lake Diversion. The preferred solution is to remove all effluents from Lake Michigan. Otherwise secondary treatment is required, with reduction of nutrients as practical technical methods are developed. Existing primary treatment facilities may be of practical use for storm flow treatment works.

STATUS OF INDUSTRIAL TREATMENT FACILITIES
TRIBUTARY TO LAKE MICHIGAN

Entity	Type of Waste	Treatment Provided	Additional Requirement	Approved Schedule for Completion
Abbott Laboratories	Biological	Intermediate & Disinfection	BOD & Solids Reduction Sludge Disposal	December,1968
U. S. Steel	Industrial - Acid, iron, solids	Settling & Acid Reduction	Improved Settling, & pH & iron control	December,1968

ARTICLE II

Rule 2.01 These rules and regulations Rule 1.01 through Rule 1.05 were adopted by the Sanitary Water Board September 6, 1966.

Rule 2.02 The Implementation and Enforcement Plan, Rule 1.08, is hereby adopted March 5, 1968.

Rule 2.03 These rules and regulations designated as SWB-7, Interstate Waters - Lake Michigan and Little Calumet River, Grand Calumet River and Wolf Lake shall be in full force and effect on or after April 1, 1968.

Franklin D. Yoder, M.D., M.P.H.
Chairman, Sanitary Water Board
State of Illinois

Attest:

Clarence W. Klassen, Technical Secretary
Sanitary Water Board, State of Illinois

Dated: March 5, 1968

RIVER SITE MAP

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ILLINOIS SANITARY WATER BOARD

Rules and Regulations SWB-8

WATER QUALITY STANDARDS

Interstate Waters
Illinois River and
Lower Section of Des Plaines River

Criteria Adopted-December 1, 1966
Implementation Plan Submitted August 10, 1967
Approved by U.S. Department of Interior January 27, 1968
Sanitary Water Board Reapproved March 5, 1968

TABLE OF CONTENTS

Illinois Sanitary Water Board
Rules and Regulations SWB-8
Illinois River and Lower Section of Des Plaines River

	Page
Authority and Statement of Policy	1
Introduction - Water Quality Criteria - Rule 1.01	1
1. Purpose of Criteria	1
2. Laboratory Control Standard Methods	1
Stream Sectors and Uses - Rule 1.02	2
1. Des Plaines River & Illinois River to the Fox River	2
2. Illinois River from Fox River to Bureau Creek	2
3. Illinois River from Bureau Creek to East Peoria	2
4. Illinois River from East Peoria to Grafton	2
Minimum Criteria - Rule 1.03	2
Stream Criteria - For Public Water Supply - Rule 1.04	2
Stream Criteria - For Aquatic Sectors - Rule 1.05	3
Stream Criteria - For Recreation Sector - Rule 1.06	4
Stream Criteria - For Industrial Water Supply - Rule 1.07	4
Implementation and Enforcement Plan - Rule 1.08	5
1. Authority	5
2. Criteria adopted SWB - 8	5
3. Minimum Flows	5
4. Temperature Change	5
5. Surveillance.	5
6. Operator Certification, reports and inspection	5
7. Municipal Treatment Improvement	6
8. Industrial Treatment Improvement	6
9. Combined Sewers - nutrients - tertiary treatment	6
10. Treatment Requirements and Effluent Criteria	6
a. Deoxygenating Waste	6
b. Basic treatment	6
c. Hazardous Product Storage	6
11. Guidelines Range of Treatment	7
12. Typical Project Schedule	7
13. Enforcement Action	8
14. Schedule Municipal Treatment	8
Table ...	9-11
15.Schedule Industrial Treatment	8
Table - Lower Des Plaines River	12
Table - Illinois River	13-15
Effective Dates - Rule 2.01, 2.02, 2.03	16

RIVER SITE MAP

ILLINOIS SANITARY WATER BOARD

Rules and Regulations SWB-8

Illinois River and Lower Section of Des Plaines River

AUTHORITY

Pursuant to the authority contained in Sec. 6, Paragraphs (b) and (f) of "An Act to establish a Sanitary Water Board and to contrcl, prevent, and abate pollution of the streams, lakes, ponds, and other surface and underground waters in the State" (approved and in force July 12, 1951, Par. 145.6, Ch. 19, Ill. Rev. Stat. 1965), the Sanitary Water Board adopts the following Rules and Regulations.

STATEMENT OF POLICY

In the above Act, it has been declared to be the public policy of this State to maintain reasonable standards of purity of the waters of the State consistent with their use for domestic and industrial water supplies, for the propagation of wildlife, fish and aquatic life, and for domestic, agricultural, industrial, recreational and other legitimate uses, including their use in the final distribution of the water-borne wastes of our economy. It has also been declared to be the public policy of this State to provide that no waste be discharged into any waters of the State without first being given the degree of treatment necessary to prevent the pollution of such waters.

WATER QUALITY CRITERIA

ARTICLE 1

Rule 1.01. Introduction

These criteria of water quality prescribe the qualities or properties of the waters of the State which are necessary for the designated public use or benefit, and which, if the limiting conditions given are exceeded, shall be considered indicative of a polluted condition subject to abatement.

These stream criteria shall be applicable to the Illinois River main stream, the DesPlaines River downstream from the confluence with the Chicago Sanitary and Ship Canal, and each tributary at its confluence with the main stream.

"Standard Methods for the Examination of Water and Waste Water", Twelfth Edition, 1965, American Public Health Association, Inc. should be employed where applicable, but it is recognized that other approved methods may be required in applying some of the criteria. The Illinois Sanitary Water Board shall designate the alternate procedure in "Standard Methods", *and approve any departure from these procedures, with the concurrence of the Federal Water Pollution Control Administration.*

EDITOR'S NOTE: Changes requested by U.S. Department of Interior are *italicized.*
Revised - 101766, 081167, 030568
DBM:mh

Rule 1.02 STREAM SECTORS *AND USES*

a) The Illinois River and the Des Plaines River downstream from the Chicago Sanitary and Ship Canal to the mouth of the Fox River is designated as an Industrial Water *Supply* Sector. Industrial Water *Supply* criteria shall apply.

b) The Illinois River from the mouth of the Fox River to the mouth of Bureau Creek is designated as an Aquatic Life Sector. Aquatic life criteria shall apply.

c) The Illinois River from the mouth of Bureau Creek to the Peoria and Pekin Union RR Bridge at Peoria is designated as an Aquatic Life, Recreational and Public Water Supply Sector. Aquatic, Recreational Criteria shall apply. The Public Water Supply Criteria shall apply at the point at which water is withdrawn for treatment and distribution as a potable supply.

d) The Illinois River from the Peoria and Pekin Union RR Bridge to the Mississippi River is designated as an Aquatic Life Sector. Aquatic life criteria shall apply.

Rule 1.03 MINIMUM CONDITIONS

These Minimum Criteria shall apply to all waters at all places and at all times in addition to specific criteria applicable to specific sectors.

a) Free from substances attributable to municipal, industrial or other discharges that will settle to form putrescent or otherwise objectionable sludge deposits; or which will form bottom deposits that may be detrimental to bottom biota (such as coal fines, limestone dust, fly ash, etc.)

b)Free from floating debris, oil, scum and other floating materials attributable to municipal, industrial or other discharges in amounts sufficient to be unsightly or deleterious;

Oils, grease and floating solids shall be reduced to a point such that they will not create fire hazards, coat hulls of watercraft, injure fish or wildlife or their habitat, or will adversely affect public or private recreational development or other legitimate shoreline developments or uses.

c) Free from materials attributable to municipal, industrial or other discharges producing color, odor or other conditions in such degree as to create a nuisance;

d) Free from substances attributable to municipal, industrial or other discharges in concentrations or combinations which are toxic or harmful to human, animal, *plant* or aquatic life.

Rule 1.04 FOR PUBLIC WATER SUPPLY *and FOOD PROCESSING INDUSTRY*

The following criteria are for evaluation of river quality at the point at which water is withdrawn for treatment and distribution as a potable supply;

a) Bacteria: Coliform group not to exceed 5,000 per 100 ml as a monthly average value (either MPN or MF count); nor exceed this number in more than 20 per cent of the samples examined during any month; nor exceed 20,000 per 100 ml in more than five per cent of such samples.

b) Dissolved solids: Not to exceed 500 mg/1 as a monthly average value, nor exceed 750 mg/1 at any time. Values of specific conductance of 750 and 1025 micromhos/cm (at 25 deg. C.) may be considered equivalent to dissolved solid concentration of 500 to 750 mg/1.

c) Chemical Constituents: Not to exceed the following specific concentration at any time:

Stream Samples

Constituent	Concentration mg/1
Acidity (Total)	0.0
Ammonia Nitrogen (N)	2.5
*Arsenic	0.05
*Barium	1.0
*Cadmium	0.01
CCE (Carbon Chloroform Extract)	0.2
Chloride	150
*Chromium-Hexavalent (Chromate or dichromate)	0.05
*Chromium-Trivalent (Chromic or chromite)	1.00
*Copper	1.0
Cyanide	0.025
Fluoride	1.00
Iron (total)	0.3
*Lead	0.05
MBAS	0.5
Nitrate (as NO_3)-	45
Oil Substantially free of visible floating oil	
pH 6.0 - 9.0	
Phenols	.02
Phosphate	4.0
*Selenium	0.01
*Silver	0.05
Sulphate	200
Temperature 90°F	
*Zinc	5.0

*Heavy Metals

d) Radio active substances: Gross beta activity in the known absence of Strontium 90 and alpha omitters not to exceed 1,000 micromicro curies per liter at any time. *"Absence of" is defined as not more than 10 pico curies of Strontium 90 and 3 pico annies of alpha radiation.*

Rule 1.05 FOR AQUATIC LIFE SECTORS

The following criteria are for evaluation of conditions at any point in the river, except for areas immediately adjacent to outfalls. In such areas cognizance will be given to opportunities for the admixture of waste effluents with river water:

a) Dissolved oxygen:

For maintenance of well balanced Aquatic life habitats the dissolved oxygen content shall be not less than 5.0 mg/1 during at least 16 hours of any 24-hour period, nor less than 4.0 mg/1 at anytime.

b) pH:

No value below *6.0* nor greater than 9.0 at any time, and preferably between 6.5 and 8.5. Sampling shall be beyond 100 feet of an outfall sewer.

c) Temperature:

Not to exceed 90 deg. F. at any time during the months of *April* through November, and not to exceed *60* deg. F. at any time during the months of December to *April.*

d) Toxic substances:

Not to exceed one-tenth of the 48-hour median tolerance limit, for fish, except that other limiting concentrations may be used in specific cases. Chemical constituents listed below are not to exceed the specific concentration at any time at any point in aquatic sectors of the basin, except for areas immediately adjacent to outfalls:

Constituent	Concentration mg/1
Ammonia Nitrogen (N)	2.5
*Arsenic	1.0
*Barium	5.0
*Cadmium	0.05
*Chromium-Hexavalent	0.05
*Chromium-Trivalent	1.00
*Copper	0.04
Cyanide	0.025
Iron	1.00
*Lead	0.1
Phenols	0.2
*Silver	0.05
*Zinc	1.00

*Heavy Metals

e) Taste and Odor:

Waters shall be free of substances from other than natural origin which will result in impairment of taste, odor or other factors which would reduce the acceptability of fishes for human consumption.

Rule 1.06 FOR RECREATION SECTOR

The following criterion is for evaluation of conditions at any point in a recreation sector used for such water contact activities as swimming and water skiing:

Bacteria - Number per 100 ml by MT Fermentation or MF Techniques

Bacteria: As determined by multiple-tube fermentation or membrane filter procedures, and based on a minimum of not less than five samples taken over not more than a 30-day period, the fecal coliform content of primary contact recreation waters shall not exceed a geometric mean of 200/100 ml, nor shall more than 10% of total samples during any 30-day period exceed 400/100 ml.

(Primary contact recreation is intended to include activities in which there is prolonged and intimate contact with the water involving considerable risk of ingesting water.)

Rule 1.07 FOR INDUSTRIAL WATER SUPPLY SECTOR

The following criteria are applicable to stream water at the point at which the water is withdrawn for use for industrial cooling and processing; and at any point in the industrial water use sector:

a) Dissolved Oxygen: Not less than 3.0 mg/1 during at least 16 hours of any 24-hour period, nor less than 2.0 mg/1 at any time.

b) pH: Not less than *6.0* nor greater than 9.0 at any time.

c) Temperature: Not to exceed 93 deg. F. at any time.

d) Dissolved Solids: Not to exceed 750 mg/1 as a monthly average value, nor exceed 1,000 mg/1 at any time.

e) All items of Minimum Conditions applicable to all waters at all places and at all times. (See Rule 1.03)

f) *Bacteria: The fecal coliform content of secondary contact recreation waters, as determined by either multiple-tube fermentation or membrane filter techniques, shall not exceed a geometric mean of 1,000/100 ml, nor shall they equal or exceed 2,000/100 ml in more than 10% of the samples.*

(This criterion is intended to provide for water uses customarily described as "secondary contact uses", including boating, fishing, and limited contact with water incident to shoreline activities; in which contact with the water is either incidental or accidental and the probability of ingesting appreciable quantities of water is minimal.)

Rule 1.08 *IMPLEMENTATION AND ENFORCEMENT PLAN*

1. The Illinois Sanitary Water Board, under the 1951 Sanitary Water Board Act as amended (Ch. 19, Par. 145.1 - 145.18, IRS 1965), has the responsibility to control and prevent pollution in the waters of this State exclusive of the area embraced by Metropolitan Sanitary District of Greater Chicago. Authority to adopt and enforce water quality standards within the Metropolitan Sanitary District is contained in the recently adopted HB 1177, 75th General Assembly.

2. The Board adopted the criteria, Rules and Regulations SWB-8, December 1, 1966 as standards of water quality for the waters of the Illinois River and the Des Plaines River downstream from the confluence with the Chicago Sanitary and Ship Canal and each tributary at its confluence with the main stream. All waters will be required to meet the standards for the appropriate public and industrial water supply, aquatic life, recreational and agricultural uses. *Compliance with these standards will enhance the quality of waters within these streams.*

   Waters whose existing quality is better than the established standards as of the date which such standards become effective will be maintained in their present high quality within the powers granted by the "Illinois" water pollution control statutes. Such waters will not be lowered in quality unless and until it has been affirmatively demonstrated to the Federal Water Pollution Control Administration that such change is justifiable as a result of necessary economic or social development and will not interfere with or become injurious to, any appropriate beneficial uses made of, or presently possible in, such waters.

3. *The minimum weekly flow, which occurs once in 10 years, will be used in applying the standards.* The Board plans to require compliance with the bacteriological standards for recreation during the recreational season of April through October inclusive. It is recognized that there are uncontrollable sources of bacterial pollution other than that of sewage treatment plant effluents.

4. *Drastic or sudden temperature changes will not be permitted. The Board will insist upon controlled changes in temperature not to exceed 2 deg. F. per hour, nor more than a 5 deg. cumulative change from natural water temperature.*

5. The Board collects samples bimonthly from various locations on streams in the Illinois River Basin. Monthly samples are collected from most of the Illinois River stations and weekly samples from one station during May through October. Additional stations are being added as needed and two electronic stations are programmed for the Fall of 1967.

6. Rules and Regulations, SWB 2, require the certification of waste treatment plant operators. The prompt and regular submission of monthly operational reports is required to enable evaluation of effluent quality. Certification and record of operation report submissions are recorded in a computer system to facilitate periodic data processing. The frequency of inspections of wastewater treatment plants by representatives of the Board have been increased and will be increased more to insure compliance with the standards.

7. *Secondary treatment* resulting in effluents ranging from 20 to 40 mg/1 five day BOD and 25 to 45 mg/1 suspended solids *must be provided by all municipalities, including disinfection of the effluent.*

8. *All industries will be required to provide a degree of treatment or control that is equivalent to that required of municipalities.* In some instances supplemental or advanced waste treatment in excess of secondary treatment may be necessary.

9. It is the plan of the Board that, where needed, the control of pollution caused by combined sewer overflow or storm flow bypassing at sewage treatment works be provided at the time of improvement or expansion of treatment works. The separation of combined sewers or special treatment works in some instances, *the reduction of nutrients* and provision of tertiary treatment should be accomplished, where deemed necessary, within the next ten years, *or as practical technical methods are developed.*

10. *Treatment Requirements and Effluent Criteria*

In order to establish a basis for treatment works design, municipal and industry representatives and consultants frequently inquire regarding the limits or effluent standards that must be met. The adoption of stream water quality criteria as required by the Federal Water Quality Act of 1965(PL 89-234 amendments to PL 84-660; 33 U.S.C. 466) emphasizes the need to relate stream quality to effluent quality and treatment requirements. The expressed goals established by this Act are to protect and upgrade water quality; any wastes amenable to treatment or control must receive the best practicable treatment or control prior to discharge into any interstate water. The same goals have been, and continue to be, basic under the Sanitary Water Board Act for all waters of Illinois. Both the Federal Law and the Illinois Act prohibit the use of any stream or portion thereof for the sole or principal purpose of transporting wastes.

a. All municipal or industrial facilities for treatment of deoxygenating waste shall provide at least secondary biological treatment, or advanced waste treatment, adequate to reduce the organic pollution load of the treatment works effluent at the final treatment structure in accordance with effluent guidelines in paragraph 11, below. A final treatment structure is considered the last point of access before discharge to waters of the State. Effluents shall meet all criteria expressed in Item b below.

b. All facilities for the treatment of sewage, industrial wastes, or other wastes shall provide for the following:

1) Substantially complete removal of settleable solids.

2) Removal of all floating debris, oil, grease, scum, or sludge solids.

3) Removal of color, odor, or turbidity to below obvious levels.

4) Removal of heavy metals, or of toxic and odor producing substances in accordance with the levels of constituents and properties determined by the Board.

c. Storage facilities for materials which are hazardous to health and welfare, and for oils, gases, fuels, or other materials capable of causing water pollution if accidentally discharged, shall be located so as to minimize or prevent any spillage or leakage that might result in water pollution. Structures and devices to contain spillage, such as catchment areas, relief vessels, or entrapment dikes, should be installed at existing facilities, shall be installed at all new facilities, and shall be required following any discharge resulting in pollution.

11. *Guidelines Regarding Range of Treatment*

a. Secondary treatment resulting in effluents ranging from 20 to 40 mg/1 five-day BOD and 25 to 45 mg/1 suspended solids is acceptable on the Illinois River and lower Des Plaines River. Tertiary or other advance treatment or modifications of conventional treatment will be specified for all intermittent streams and small or low flow streams, and shall include effluent disinfection at least through the recreational season of April through October.

b. Permissive Treatment & Effluent Requirements
Based on Average Strength Municipal Wastes

Type Treatment	BOD or ODI Reduction Percent	Effluent BOD, ODI mg/1	Effluent Suspended Solids mg/1	Type Facilities	Stream Dilution Requirements
Secondary	85	30	35	Trickling Filter	Illinois and Des Plaines
Secondary	90	20	25	*Activated Sludge	2 to 1
*(or trickling filter & supplemental treatment)					
Tertiary	95	10	13	Secondary plus Supplemental	1 to 1

Disinfection with up to 1mg/1 of chlorine residual in the effluent to reduce fecal Coliform to 400 or less, where necessary *for primary contact waters or to 2000 or less for secondary contact waters.*

Bypass flows in excess of waste treatment works capacity shall be given primary treatment, and chlorination if necessary, in auxiliary facilities.

c. Within design limitations, operation shall be of such quality to obtain the best possible degree of treatment from all treatment works. Every effort must be made to eliminate all system bypasses and overflows, otherwise measures must be taken to provide treatment units such as lagoons, detention or holding basins, and chlorination. Installation of new combined sewers are prohibited. Existing combined sewer systems should be patrolled; overflow regulating devices shall be adjusted to convey the maximum practicable amount of combined flow to treatment facilities. Excess infiltration into the sewer system should be eliminated to keep dry weather flow within design limits of conduits and treatment works.

12. *The Board will follow Typical Project Completion Schedules listed below:*

a. Chlorination Facilities

1) Completion of plans and specifications - 12 months before completion date.

2) Award of construction contracts - 6 months before completion date.

b. Treatment Works - Municipalities less than 10,000 Population and Industries

1) Completion of plans and specifications - 18 months before completion date.

2) Award of construction contracts - 12 months before completion date.

c. Treatment Works - Municipalities above 10,000 Population

1) Completion of plans and specifications - 30-33 months before completion date.

2) Award of construction contracts - 21-24 months before completion date.

13. If it appears at any time prior to the above dates that there will not be compliance with the timetables, the Board will hold administrative hearings and issue orders to submit schedule for abatement of pollution with a minimum time for completion of waste treatment facilities. When a waste producer fails to comply with an order, the Board will initiate legal action through the Attorney General for enforcement of the order in the appropriate court.

14. The Board will require and has scheduled construction of municipal treatment works improvements *in accordance with the timetable,* pages pages 9 to 11.

15. All industries with effluent discharge will be required to construct additional or improved treatment works *in accordance with the timetable,* pages pages 12 to 15.

EDITOR'S NOTE: Effective Date and Sanitary Water Board Certification on Page 16.

STATUS OF MUNICIPAL WASTE FACILITIES TRIBUTARY TO ILLINOIS RIVER

Municipality Sanitary District	1960 Pop.	Receiving Stream	Type Sewer System Treat. & Design P.E.	Date Built	Additional Requirements	Approved Schedule for Starting Construction
Beardstown S.D.	6,500	Illinois River	Comb S.-Primary 8,000 P.E.	1963	Chlorination Secondary	Chlorination under construction. Secondary facilities January 1, 1969
Chillicothe S.D.	6,000	Illinois River	Sep.S.-Primary 1,000 P.E.	1963	Chlorination Secondary	May, 1967 (interim) January 1, 1969
Creve Coeur S.D.	7,000	Illinois River	Sep.S.-Primary and Chlorination 11,000 P.E.	1966	Secondary	July 1, 1971
Depue	1,920	Illinois River	Sep.S.-Secondary 3,000 P.E.	1965	Chlorination	May, 1967 (Interim)
E. Peoria	13,370	Illinois River	Sep.S.-Primary	1940	Chlorination Secondary	May, 1967 (interim) January 1, 1969
Grafton	1,084	Illinois River	Sep.S.-Primary	1939	Chlorination Secondary	May, 1967 (Interim) January 1, 1969
Hardin	1,040	Illinois River	Sep.S.-Primary 1,000 P.E.	1942	Chlorination Secondary	May, 1967 (Interim) January 1, 1969
Havana	4,365	Illinois River	Sep.S.-Primary 4,000 P.E.	1940	Chlorination Secondary	May, 1967 (Interim) January 1, 1969
Joliet	*73,480	Lower DesPlaines	Comb & Sep. Primary & Chlorination 83,000 P.E.	1957	Secondary	January 1, 1969
LaSalle	11,900	Illinois River	Comb S.-Primary 14,000 P.E.	1960	Chlorination Secondary	May, 1967 (Interim) January 1, 1969

STATUS OF MUNICIPAL WASTE FACILITIES
TRIBUTARY TO ILLINOIS RIVER

Municipality Sanitary District	1960 Pop.	Receiving Stream	Type Sewer System Treat. & Design P.E.	Date Built	Additional Requirements	Approved Schedule for Starting Construction
LaSalle County Home Home	70	Illinois River	----Secondary 150 P.E.	1962	Chlorination	May, 1967 (Interim)
Lock Port	*8,785	Lower DesPlaines Chic. Ship C.	Comb & Sep. Primary 12,000 P.E.	1959	Chlorination Secondary	May, 1967 (Interim) January 1, 1969
Louis Bros. T.Pk.		Illinois River	----Secondary & Chlorination 300 P.E.	Under Const.	None	
Marquette Heights	2,517	Illinois River	Sep.S.-Primary 5000 P.E.	1949	Chlorination Secondary	May, 1967 (Interim)
Marseilles	4,347	Illinois River	Comb S.-Primary 6100 P.E.	1939	Chlorination Secondary	May, 1967 (Interim) January 1, 1969
Morris	7,935	Illinois River	Sep.S.-Primary 9600 P.E.	1956	Chlorination Secondary	May, 1967 (Interim) January 1, 1969
Ottawa	19,408	Illinois River	Comb S.-Primary 27,000 P.E.	1958	Chlorination Secondary	May, 1967 (Interim) January 1, 1969
Pekin	29,700	Illinois River	Sep.S.-Primary 54,000 P.E.	1939	Chlorination Secondary	May, 1967 (Interim) January 1, 1969
Peoria S.D.	160,000	Illinois River	Sep.S.-Sec. & Chlor. 200,000	1965	None	
Peru	11,445	Illinois River	Comb S.-Primary 15,000 P.E.	1940	Chlorination Secondary	May, 1967 (Interim) January 1, 1969
Rock Dale	1,272	DuPage River	Comb S.-Primary 3,000 P.E.	1942	Chlorination	May, 1967 (Interim) Secondary under constructio
Sparland School		Illinois River	----Secondary 290 P.E.	1930	Chlorination	

STATUS OF MUNICIPAL WASTE FACILITIES
TRIBUTARY TO ILLINOIS RIVER

Municipality Sanitary District	1960 Pop.	Receiving Stream	Type Sewer System Treat. & Design P.E.	Date Built	Additional Requirements	Approved Schedule for Starting Construction
Spring Valley	5,370	Illinois River	Sep.S.-Primary 10,000 P.E.	1959	Chlorination Secondary	May, 1967 (Interim) January 1, 1969
St. Bede College		Illinois River	----Secondary 300 P.E.		Chlorination	January 1, 1969
Starved Rock Park		Illinois River	----Secondary 6000 P.E.	1958	Chlorination	January 1, 1969
Utica	1,014	Illinois River	Sep.S.-Primary 1000 P.E.	1941	Chlorination Secondary	May, 1967 (Interim) January 1, 1969

*Special Census

STATUS OF INDUSTRIAL WASTE FACILITIES
TRIBUTARY TO LOWER DESPLAINES RIVER

Entity	Type of Waste	Treatment Provided	Additional Requirements	Approved Schedule for Starting Construction
American Steel & Wire Co. (Joliet)	Cooling water	Settling	None	
Amoco Chemical Corp. (Joliet)	Organic Chemicals	Biological Treatment	Additional Treatment	January, 1969
Caterpillar Tractor Co. (Joliet)	Solids, oil	Solid removal Oil removal	None	
Commonwealth Edison (Joliet)	Cooling water	None	None	
Cowles Chemical Company (Joliet)	Organic chemicals	None	To discharge to City sewer system or treatment	January 1, 1969
Olin Mathieson Chemical Corp. (Blockson Works) (Joliet)	Inorganic chemicals	Ponds	Close system	July 1, 1969
Olin - Kraft	Glue, oil	Settling	Additional oil separators	January, 1969
Phoenix Mfg. Co. (Joliet)	Mill Scale	Settling	Additional settling and oil removal	July 1, 1969
Rexall Chemical Co. (Joliet)	Organic chemicals	Biological treatment	Chlorination	January 1, 1969
Stepan Chemical Co. (Joliet)	Organic chemicals	Lagoons	Biological treatment	July 1, 1969
Texaco, Inc. Lockport Plant	Oil refinery waste	Oil separator lagoon	Biological treatment	April 1, 1970
The Pure Oil Co. Lemont Refinery	Oil refinery waste	Oil separator	Biological treatment	October 1, 1969
The Ruberoid Co.(Joliet)	Organic fiber	Fine screening	Biological treatment	July 1, 1969

STATUS OF INDUSTRIAL TREATMENT FACILITIES TRIBUTARY TO ILLINOIS RIVER

Entity	Type of Waste	Treatment Provided	Additional Requirement	Approved Schedule for Starting Construction
American Distilling Co (Pekin)	Organic	By-Product recovery	BOD Reduction	Mid 1970
American Nickeloid Co.	Metal Finishing	Cyanide Oxidation	Treatment of other minor waste from metal production and finishing	Mid 1969
Archer Daniels Midland Chemical Co. (Mapleton)	Organic & Inorganic Chemicals	Fatty acids recovery primary-aerated pond stabilization ponds	None	
B. F. Goodrich Chemical Company	Organic Chemicals and solids	Settling lagoons	BOD reduction	Summer (1968)
Baird Chemical Company R. R. Mapleton	Organic & Inorganic	Lagoons	Additional BOD removal	Mid 1969
Borg Warner Corp. Marbon Chemical Div.	Acids, Solids and organic chemical	Settling and aerated lagoons	Additional facilities may be necessary per pilot studies	Under construction
Carus Chemical Co.	Solids & Inorganic chemicals	Lagoons	Additional color & solids removal	Mid 1968
Caterpillar Tractor Co. Foundry-Mapleton	Solids, oils	Solid removal oil removal	None	
Caterpillar Tractor Co. East Peoria	Oil	Oil Removal	Secondary oil removal	Mid 1969
Caterpillar Tractor Co.	Solids oil	Solids removal oil removal	None	

STATUS OF INDUSTRIAL TREATMENT FACILITIES TRIBUTARY TO ILLINOIS RIVER

Entity	Type of Waste	Treatment Provided	Additional Requirement	Approved Schedule for Starting Construction
Central Illinois Power Co. Edwards Sta. S. of Bartonville	Fly ash	Settling Pond	None	
Central Illinois Power Co. Wallace Sta. Peoria	Fly ash	Settling Pond	None	
Commonwealth Edison Co. Dresden Nuclear Power Sta.	Radioactive liquid waste heated condensor cooling waters	Control release	None	
Commonwealth Edison Co. Generating Plant, Pekin	Fly ash	Settling Pond	None	
Corn Products Co. Pekin	Corn processing	No treatment	BOD reduction	July, 1969
DesPlaines Chemical Co.	Solids, acids & inorganic chemicals	Completely close system	None	
E. I. Dupont Nemours & Co. Inc.,Seneca Works	Cooling water and inorganic chemicals	No treatment	None	
Federal Paper Board Co.,Inc. Morris Paperboard Mill	Solids & organic	In-plant centrifuge installation by end 1967 for solids	BOD reduction	May, 1969
George A. Hormel & Co.	Organic	Lagoons	None	
Henry Milk Product	Organic	None	Secondary Treatment	Mid 1969
Hooker Chemical Co. Farm Chemicals Div.	Solids, acids & inorganic chemicals	Settling lagoons	Close system	December, 1969

STATUS OF INDUSTRIAL TREATMENT FACILITIES TRIBUTARY TO ILLINOIS RIVER

Entity	Type of Waste	Treatment Provided	Additional Requirement	Approved Schedule for Starting Construction
Illinois Nitrogen Corp.	Cooling waters & inorganic chemicals	None	None	
Illinois Power Co. Havanna	Fly Ash	Settling pond	None	
Jones & Laughlin Steel Corp.	Solids, acids & oil	2-stage chemical treatment deep injection well	None	
Lacon Woolen Mills	Solids organic	None	Pretreatment and then discharge to City S.T.P.	Under Construction
Libby-Owens-Ford Glass Co.	Solids, inorganic chemical	Settling lagoons	None	
National Biscuit Co. Marseilles Carton Plant	Solids, organic	Primary treatment	BOD reduction	Mid 1968
National Starch Co. Meridosia	Solids, organic	Settling lagoons	BOD reduction	Mid 1969
New Jersey Zinc Co.	Solids, acids & inorganic chemicals	Settling lagoons	None	
Oscar Mayer Co. Abbattoir, Beardstown	Organic	Lagoons	None	
Standard Brands, Inc. Fleischmann Mfg. Div. Pekin	Organic	Anaerobic digestion	Additional BOD removal	Fall 1967
The Quaker Oats Co. Pekin	Organic	Paper pulp removal	BOD reduction	October 1967
W. R. Grace and Co. Davison Chemical	Cleanup waters	Sump holding and recycling close system	None	

ARTICLE II

Rule 2.01 These rules and regulations, Rule 1.01 through Rule 1.07, were adopted by the Sanitary Water Board December 1, 1966.

Rule 2.02 The changes and amendments to Rule 1.01 through Rule 1.07 denoted in italics and the Implementation and Enforcement Plan, Rule 1.08, are hereby adopted March 5, 1968.

Rule 2.03 These rules and regulations designated as SWB-8, Illinois River and Lower Section of Des Plaines River shall be in full force and effect on and after April 1, 1968.

Franklin D. Yoder, M.D., M.P.H.
Chairman, Sanitary Water Board
State of Illinois

Attest:

Clarence W. Klassen
Technical Secretary
Sanitary Water Board

Dated: March 5, 1968

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ILLINOIS SANITARY WATER BOARD

Rules and Regulations SWB-9

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WATER QUALITY STANDARDS

Interstate Waters
Wabash River and
Tributary Streams Crossing into Indiana

Criteria Adopted December 1, 1966
Implementation Plan Submitted August 18, 1967
Sanitary Water Board Reapproval December 17, 1968

TABLE OF CONTENTS

Illinois Sanitary Water Board
Rules and Regulations SWB-9
Wabash River and Interstate Tributary Streams

	Page
Authority and Statement of Policy	1
Introduction - Water Quality Criteria - Rule 1.01	1
1. Purpose of Criteria	1
2. Laboratory Control Standard Methods	1
Stream Sectors and Uses - Rule 1.02	2
1. Wabash River and Little Vermilion River	2
2. Vermilion River	2
3. Clear Creek, Sugar Creek, Brouillettes Creek	2
Minimum Criteria - Rule 1.03	2
Stream Criteria - For Public Water Supply - Rule 1.04	2 &3
Stream Criteria - For Aquatic Sectors - Rule 1.05	3
Stream Criteria - For Recreation Sector - Rule 1.06	4
Stream Criteria - For Industrial Water Supply Sector - Rule 1.07	4
Implementation and Enforcement Plan - Rule 1.08	5
1. Authority	5
2. Criteria adopted SWB - 9	5
3. Minimum Flows	5
4. Temperature Change	5
5. Surveillance	5
6. Operator Certification, reports and inspection	5
7. Municipal Treatment Improvement	5
8. Industrial Treatment Improvement	6
9. Combined Sewers - Nutrients - tertiary treatment	6
10. Treatment Requirements and Effluent Criteria	6
a. Deoxygenating Waste	6
b. Basic treatment	6
c. Hazardous Product Storage	6
11. Guidelines Range of Treatment	7
12. Typical Project Schedule	7
13. Enforcement Action	8
14. Schedule Municipal Treatment	8
15. Schedule Industrial Treatment	8
TABLE	9
Effective Date: Rule 2.01, 2.02, 2.03	10

RIVER SITE MAP

ILLINOIS SANITARY WATER BOARD

Rules and Regulations SWB-9

Wabash River and Tributary
Streams Crossing the Illinois-Indiana Boundary

AUTHORITY

Pursuant to the authority contained in Sec. 6, Paragraphs (b) and (f) of "An Act to establish a Sanitary Water Board and to control, prevent, and abate pollution of the streams, lakes, ponds, and other surface and underground waters in the State" (approved and in force July 12, 1951, Par. 145.6, Ch. 19, Ill. Rev. Stat. 1967), the Sanitary Water Board adopts the following Rules and Regulations.

STATEMENT OF POLICY

In the above Act, it has been declared to be the public policy of this State to maintain reasonable standards of purity of the waters of the State consistent with their use for domestic and industrial water supplies, for the propagation of wildlife, fish and aquatic life, and for domestic, agricultural, industrial, recreational and other legitimate uses, including their use in the final distribution of the water-borne wastes of our economy. It has also been declared to be the public policy of this State to provide that no waste be discharged into any waters of the State without first being given the degree of treatment necessary to prevent the pollution of such waters.

WATER QUALITY CRITERIA
ARTICLE I

Rule 1.01. Introduction

These criteria of water quality prescribe the qualities or properties of the waters of the State which are necessary for the designated public use or benefit, and which, if the limiting conditions given are exceeded, shall be considered indicative of a polluted condition subject to abatement.

These stream criteria shall be applicable to the Wabash River main stream, to each tributary at its confluence with the main stream, and to the following tributary streams crossing the Illinois-Indiana boundary: Clear Creek, Sugar Creek, Brouillettes Creek, Little Vermilion River and Vermilion River.

"Standard Methods for the Examination of Water and Waste Water", Twelfth Edition, 1965, American Public Health Association, Inc. should be employed where applicable, but it is recognized that other approved methods may be required in applying some of the criteria. The Illinois Sanitary Water Board shall designate the alternate procedure in "Standard Methods", and approve any departure from these procedures, with the concurrence of the Federal Water Pollution Control Administration.

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Rule 1.02 Stream Sectors and Uses

a) The Wabash River and the Little Vermilion River are designated for aquatic life, recreation, industrial water supply and public water supply, therefore, all criteria shall apply as specified in Rules 1.03 through 1.07, below.

b) The Vermilion River is considered to be available for recreation and for aquatic life. The Aquatic Recreational Criteria shall apply, as well as Rule 1.03, below.

c) Clear Creek, Sugar Creek and Brouillettes Creek are considered to be available for wildlife, fish and aquatic life. The aquatic criteria shall apply, as well as Rule 1.03, below.

Rule 1.03 Minimum Conditions

These Minimum Criteria shall apply to all waters at all places and at all times in addition to specific criteria applicable to specific sectors.

a) Free from substances attributable to municipal, industrial or other discharges that will settle to form putrescent or otherwise objectionable sludge deposits; or which will form bottom deposits that may be detrimental to bottom biota (such as coal fines, limestone dust, fly ash, etc.)

b) Free from floating debris, oil, scum and other floating materials attributable to municipal, industrial or other discharges in amounts sufficient to be unsightly or deleterious;

Oils, grease and floating solids shall be reduced to a level such that they will not create fire hazards, coat hulls of watercraft, injure fish or wildlife or their habitat, and will not adversely affect public or private recreational development or other legitimate shoreline developments or uses.

c) Free from materials attributable to municipal, industrial or other discharges producing color, odor or other conditions in such degree as to create a nuisance;

d) Free from substances attributable to municipal, industrial or other discharges in concentrations or combinations which are toxic or harmful to human, animal, plant or aquatic life.

Rule 1.04 For Public Water Supply and Food Processing Industry

The following criteria are for evaluation of stream quality at the point at which water is withdrawn for treatment and distribution as a potable supply:

a) Bacteria: Coliform group not to exceed 5,000 per 100 ml as a monthly average value (either MPN or MF count); nor exceed this number in more than 20 percent of the samples examined during any month; nor exceed 20,000 per 100 ml in more than five percent of such samples.

b) Dissolved solids: Not to exceed 500 mg/l as a monthly average value, nor exceed 750 mg/l at any time. For Ohio River water, values of specific conductance of 800 and 1,200 micromhos/cm (at 25 deg. C.) may be considered equivalent to dissolved-solids concentrations of 500 and 750 mg/l.

c) Radioactive substances: Gross beta activity not to exceed 1,000 picocuries per liter (pCi/l), nor shall activity from dissolved strontium -90 exceed 10 pCi/l, nor shall activity from dissolved alpha emitters exceed 3 pCi/l.

d) Chemical constituents: Not to exceed the following specified concentrations at any time:

Constituent	(mg/l)	Constituent	(mg/l)
Arsenic	0.05	Barium	1.0
Cadmium	0.01	Chromium (hexavalent)	0.05
Cyanide	.025	Fluoride	1.0
Lead	0.05	Selenium	0.01
Silver	0.05		

Rule 1.05 For Aquatic Life Sectors

The following criteria are for evaluation of conditions for the maintenance of a well-balanced, warm-water fish population. They are applicable at any point in the stream except for areas immediately adjacent to outfalls. In such areas cognizance will be given to opportunities for the admixture of waste effluents with river water.

a) Dissolved oxygen: Not less than 5.0 mg/l during at least 16 hours of any 24-hour period, nor less than 4.0 mg/l at any time;

b) pH: No values below 6.0 nor above 9.0, and daily average (or median) values preferably between 6.5 and 8.5.

c) Temperature: Not to exceed 90 deg. F. at any time during the months of April through November, and not to exceed 60 deg. F. at any time during the months of December to April.

d) Toxic substances: Not to exceed one-tenth of the 48-hour median, for fish, tolerance limit, except that other limiting concentrations may be used in specific cases when justified on the basis of available evidence and approved by the appropriate regulatory agency.

e) Taste and Odor: Waters shall be free of substances from other than natural origin which will result in impairment of taste, odor or other factors which would reduce the acceptability of fishes for human consumption.

Rule 1.06 For Recreation Sector

The following criterion is for evaluation of conditions at any point in waters designated to be used for recreational purposes, including such water-contact activities as swimming and water skiing:

Bacteria - Number per 100 ml by MF Techniques or by MT Fermentation

a. Bacteria: As determined by multiple-tube fermentation or membrane filter procedures, and based on a minimum of not less than five samples taken over not more than a 30-day period, the fecal coliform content of primary contact recreation waters shall not exceed a geometric mean of 200/100 ml, nor shall more than 10% of total samples during any 30-day period exceed 400/100 ml.

(Primary contact recreation is intended to include activities in which there is prolonged and intimate contact with the water involving considerable risk of ingesting water.)

b. Bacteria: The fecal coliform content of secondary contact recreation waters, as determined by either multiple-tube fermentation or membrane filter techniques, shall not exceed a geometric mean of 1,000/100 ml, nor shall they equal or exceed 2,000/100 ml in more than 10% of the samples.

(This criterion is intended to provide for water uses customarily described as "Secondary contact uses", including boating, fishing, and limited contact with water incident to shoreline activities; in which contact with the water is either incidental or accidental and the probability of ingesting appreciable quantities of water is minimal.)

Rule 1.07 For Industrial Water Supply Sector

The following criteria are applicable to stream water at the point at which the water is withdrawn for use (either with or without treatment) for industrial cooling and processing, and at any point in the industrial water use sector:

a) Dissolved Oxygen: Not less than 3.0 mg/l during at least 16 hours of any 24-hour period, not less than 2.0 mg/1 at any time.

b) pH: Not less than 6.0 nor greater than 9.0 at any time.

c) Temperature: Not to exceed 90 deg. F. at any time.

d) Dissolved solids: Not to exceed 750 mg/l as a monthly average value, nor exceed 1,000 mg/l at any time. For Wabash River water, values of specific conductance of 1,200 and 1,600 micromhos/cm (at 25 deg. D.) may be considered equivalent to dissolved-solids concentrations of 750 and 1,000 mg/l.

e) All items of Minimum Conditions applicable to all waters at all places at all times. (See Rule 1.03)

Rule 1.08 IMPLEMENTATION AND ENFORCEMENT PLAN

1. The Illinois Sanitary Water Board, under the 1951 Sanitary Water Board Act as amended (Ch. 19, Par. 145.1 - 145.18, IRS 1965), has the responsibility to control and prevent pollution in the waters of this State exclusive of the area embraced by Metropolitan Sanitary District of Greater Chicago. Authority to adopt and enforce water quality standards within the Metropolitan Sanitary District is contained in the recently adopted HB 1177, 75th General Assembly.

2. The Board adopted the criteria, Rules and Regulations SWB-9, December 1, 1966 as standards of water quality for the waters of the Wabash River and the Vermilion River, Little Vermilion River, Brouillettes Creek, Sugar Creek and Clear Creek. All waters will be required to meet the standards for the appropriate public and industrial water supply, aquatic life, recreational and agricultural uses. Compliance with these standards will enhance the quality of waters within these streams.

Waters whose existing quality is better than the established standards as of the date which such standards become effective will be maintained in their present high quality within the powers granted by the "Illinois" water pollution control statues. Such waters will not be lowered in quality unless and until it has been affirmatively demonstrated to the Federal Water Pollution Control Administration that such change is justifiable as a result of necessary economic or social development and will not interfere with or become injurious to, any appropriate beneficial uses made of, or presently possible in, such waters.

3. The minimum weekly flow, which occurs once in 10 years, will be used in applying the standards. The Board plans to require compliance with the bacteriological standards for recreation during the recreational season of April through October inclusive. It is recognized that there are uncontrollable sources of bacterial pollution other than that of sewage treatment plant effluents.

4. Drastic or sudden temperature changes will not be permitted. The Board will insist upon controlled changes in temperature not to exceed 2 deg. F. per hour, nor more than a 5 deg. cumulative change from natural water temperature.

5. The Board collects samples bimonthly from various locations on streams in the Wabash River Basin. Additional stations are being added as needed and one electronic station is programmed as budgeting permits.

6. Rules and Regulations, SWB 2, require the certification of waste treatment plant operators. The prompt and regular submission of monthly operational reports is required to enable evaluation of effluent quality. Certification and record of operation report submissions are recorded in a computer system to facilitate periodic data processing. The frequency of inspections of wastewater treatment plants by representatives of the Board have been increased and will be increased more to insure compliance with the standards.

7. Adequate treatment, in accord with paragraphs 10 and 11 below, must be provided by all municipalities, including disinfection of the effluent.

8. All industries will be required to provide a degree of treatment or control that is equivalent to that required of municipalities. In some instances supplemental or advanced waste treatment in excess of secondary treatment may be necessary.

9. It is the plan of the Board that, where needed, the control of pollution caused by combined sewer overflow or storm flow bypassing at sewage treatment works be provided at the time of improvement or expansion of treatment works. The separation of combined sewers or special treatment works in some instances, the reduction of nutrients and provision of tertiary treatment should be accomplished, where deemed necessary, within the next ten years, or as practical technical methods are developed.

10. Treatment Requirements and Effluent Criteria

In order to establish a basis for treatment works design, municipal and industry representatives and consultants frequently inquire regarding the limits or effluent standards that must be met. The adoption of stream water quality criteria as required by the Federal Water Quality Act of 1965 (PL 89-234 amendments to PL 84-660; 33 U.S.C. 466) emphasizes the need to relate stream quality to effluent quality and treatment requirements. The expressed goals established by this Act are to protect and upgrade water quality; any wastes amenable to treatment or control must receive the best practicable treatment or control prior to discharge into any interstate water. The same goals have been, and continue to be, basic under the Sanitary Water Board Act for all waters of Illinois. Both the Federal Law and the Illinois Act prohibit the use of any stream or portion thereof for the sole or principal purpose of transporting wastes.

a. All municipal or industrial facilities for treatment of deoxygenating waste shall provide at least secondary biological treatment, or advanced waste treatment, adequate to reduce the organic pollution load of the treatment works effluent at the final treatment structure in accordance with effluent guidelines in paragraph 11, below. A final treatment structure is considered the last point of access before discharge to waters of the State. Effluents shall meet all criteria expressed in Item b below.

b. All facilities for the treatment of sewage, industrial wastes, or other wastes shall provide for the following:

1) Substantially complete removal of settleable solids.
2) Removal of all floating debris, oil, grease, scum, or sludge solids.
3) Removal of color, odor, or turbidity to below obvious levels.
4) Removal of heavy metals, or of toxic and odor-producing substances in accordance with the levels of constituents and properties determined by the Board.

c. Storage facilities for materials which are hazardous to health and welfare, and for oils, gases, fuels, or other materials capable of causing water pollution if accidentally discharged, shall be located so as to minimize or prevent any spillage or leakage that might result in water pollution. Structures and devices to contain spillage, such as catchment

areas, relief vessels, or entrapment-dikes, should be installed at existing facilities, shall be installed at all new facilities, and shall be required following any discharge resulting in pollution.

11. Guidelines Regarding Range of Treatment

a. Secondary treatment resulting in effluents ranging from 20 to 40 mg/l five-day BOD and 25 to 45 mg/l suspended solids is acceptable on the Wabash River. Tertiary or other advance treatment or modifications of conventional treatment will be specified for all intermittent streams and small or low flow streams, and shall include effluent disinfection at least through the recreational season of April through October.

b. Permissive Treatment & Effluent Requirements
Based on Average Strength Municipal Wastes

Type Treatment	BOD or ODI Reduction Percent	Effluent BOD or ODI mg/l	Effluent Suspended Solids mg/l	Type Facilities	Stream Dilution Requirements
Secondary	80	40	45	Trickling Filter	Wabash River
Secondary	90	20	25	*Activated Sludge	2 to 1
*(or trickling filter & supplemental treatment)					
Tertiary	95	10	13	Secondary plus Supplemental	1 to 1

Disinfection with up to 1 mg/l of chlorine residual in the effluent to reduce fecal coliform to 400 or less for primary contact waters or to 2000 or less for secondary contact waters.

Bypass flows in excess of waste treatment works capacity shall be given primary treatment, and chlorination if necessary, in auxilliary facilities.

c. Within design limitations, operation shall be of such quality to obtain the best possible degree of treatment from all treatment works. Every effort must be made to eliminate all system bypasses and overflows, otherwise measures must be taken to provide treatment units such as lagoons, detention or holding basins, and chlorination. Installation of new combined sewers are prohibited. Existing combined sewer systems should be patrolled; overflow regulating devices shall be adjusted to convey the maximum practicable amount of combined flow to treatment facilities. Excess infiltration into the sewer system should be eliminated to keep dry weather flow within design limits of conduits and treatment works.

12. The Board will follow Typical Project Completion Schedules listed below:

a. Chlorination Facilities

1) Completion of plans and specifications - 12 months before completion date.
2) Award of construction contracts - 6 months before completion date.

b. Treatment Works - Municipalities less than 10,000 Population and Industries

1) Completion of plans and specifications - 18 months before completion date.
2) Award of construction contracts - 12 months before completion date.

c. Treatment Works - Municipalities above 10,000 population

1) Completion of plans and specifications - 30-33 months before completion date.
2) Award of construction contracts - 21-24 months before completion date.

13. If it appears at any time prior to the above dates that there will not be compliance with the timetables, the Board will hold administrative hearings and issue orders to submit schedule for abatement of pollution with a minimum time for completion of waste treatment facilities. When a waste producer fails to comply with an order, the Board will initiate legal action through the Attorney General for enforcement of the order in the appropriate Court.

14. The Board will require and has scheduled construction of municipal treatment works improvements in accordance with the timetable, page 9.

15. All industries with effluent discharge will be required to construct additional or improved treatment works in accordance with the timetable, page 9.

STATUS OF MUNICIPAL WASTE FACILITIES
TRIBUTARY TO WABASH RIVER AND TRIBUTARIES

Municipality or Sanitary District	1960 Pop.	Receiving Stream	Type Sewer System Treat.-Design P.E.	Date Built	Additional Requirement	Approved Schedule for Constr. Compl.
Allendale	465	Wabash River	Separate Sewer Secon.-1200 P.E.	1964	None	
Danville S.D.	51,000	Vermilion River	Separate Sewer Sec.-160,000 P.E.	1937	Chlorination	July 1972
Georgetown	3,544	Little Vermilion	Comb. Sewer Sec. - 6000 P.E.	1961	Chlorination	July 1972
Grayville	2,280	Wabash River	Separate Sewer Primary-3000 P.E.	1948	Secondary Chlorination	July 1970 July 1970
Hutsonville	583	Wabash River	Separate Sewer Primary-1000 P.E.	1956	Secondary Chlorination	July 1970 July 1970
Mt. Carmel	8,594	Wabash River	Separate Sewer Primary-15000 P.E.	1954	Secondary Chlorination	July 1970 July 1970
Paris	9,823	Sugar Creek	Comb. & Sep. Sec. - 32,500 P.E.	1938 1967	Chlorination	July 1972
St. Francisville	1,040	Wabash River	Separate Sewer Sec.-1310 P.E.	1962	None	
Tilton	2,598	Vermilion River	Separate Sewer Sec. - 4600 P.E.	1962	Chlorination	July 1972
Industrial-Central Illinois Public Service (Hutsonville)			Ash Pond		Adequate	

ARTICLE II

Rule 2.01 These rules and regulations Rule 1.01 through Rule 1.07 were adopted by the Sanitary Water Board December 1, 1966.

Rule 2.02 The Implementation and Enforcement Plan, Rule 1.08 and the corrections to Rule 1.01 through 1.07 are hereby adopted December 17, 1968.

Rule 2.03 These Rules and Regulations designated as SWB-9, Interstate Waters Wabash River and Tributary Streams Crossing into Indiana shall be in full force and effect on or after December 17, 1968.

(absent)
Franklin D. Yoder, M.D., M.P.H.
Chairman, Sanitary Water Board
State of Illinois

William T. Lodge, Acting Chairman

Attest:

Clarence W. Klassen, Technical Secretary
Sanitary Water Board, State of Illinois

Dated: December 17, 1968.

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ILLINOIS SANITARY WATER BOARD
Rules and Regulations SWB-10

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WATER QUALITY STANDARDS

Interstate Waters
Ohio River and
Saline River

Criteria Adopted December 1, 1966
Implementation Plan Submitted August 18, 1967
Sanitary Water Board Reapproval December 17, 1968

TABLE OF CONTENTS

Illinois Sanitary Water Board
Rules and Regulations SWB-10
Ohio River and Saline River

	Page
Authority and Statement of Policy	1
Introduction - Water Quality Criteria - Rule 1.01	1
1. Purpose of Criteria	1
2. Laboratory Control Standard Methods	1
Stream Sectors and Uses - Rule 1.02	2
1. Ohio River	2
2. Saline River	2
Minimum Criteria - Rule 1.03	2
Stream Criteria - For Public Water Supply - Rule 1.04	2
Stream Criteria - For Aquatic Sectors - Rule 1.05	3
Stream Criteria - For Recreation Sector - Rule 1.06	4
Stream Criteria - For Industrial Water Supply Sector - Rule 1.07	4
Implementation and Enforcement Plan - Rule 1.08	5
1. Authority	5
2. Criteria adopted SWB-10	5
3. Minimum Flows	5
4. Temperature Change	5
5. Surveillance	5
6. Operator Certification, reports and inspection	5
7. Municipal Treatment Improvement	6
8. Industrial Treatment Improvement	6
9. Combined Sewers - nutrients - tertiary treatment	6
10. Treatment Requirements and Effluent Criteria	6
a. Deoxygenating Waste	6
b. Basic treatment	6
c. Hazardous Product Storage	7
11. Guidelines Range of Treatment	7
12. Typical Project Schedule	8
13. Enforcement Action	8
14. Schedule Municipal Treatment	8
15. Schedule Industrial Treatment	8
Table - Municipal Treatment Works	9
Table - Industrial Treatment Works	10
Effective Date: Rule 2.01, 2.02, 2.03	11

ILLINOIS SANITARY WATER BOARD
Rules and Regulations SWB-10

Ohio River and
Tributary Streams, exclusive of Wabash River

AUTHORITY

Pursuant to the authority contained in Sec. 6, Paragraphs (b) and (f) of "An Act to establish a Sanitary Water Board and to control, prevent, and abate pollution of the streams, lakes, ponds, and other surface and underground waters in the State" (approved and in force July 12, 1951, Par. 145.6, Ch. 19, Ill. Rev. Stat. 1967), the Sanitary Water Board adopts the following Rules and Regulations:

STATEMENT OF POLICY

In the above Act, it has been declared to be the public policy of this State to maintain reasonable standards of purity of the waters of the State consistent with their use for domestic and industrial water supplies, for the propagation of wildlife, fish and aquatic life, and for domestic, agricultural, industrial, recreational and other legitimate uses, including their use in the final distribution of the water-borne wastes of our economy. It has also been declared to be the public policy of this State to provide that no waste be discharged into any waters of the State without first being given the degree of treatment necessary to prevent the pollution of such waters.

WATER QUALITY CRITERIA

ARTICLE I

Rule 1.01 Introduction

These criteria of water quality prescribe the qualities or properties of the waters of the State which are necessary for the designated public use or benefit, and which, if the limiting conditions given are exceeded, shall be considered indicative of a polluted condition subject to abatement.

These stream criteria shall be applicable to the Ohio River main stream, and to the Saline River.

"Standard Methods for the Examination of Water and Waste Water", Twelfth Edition, 1965, American Public Health Association, Inc. should be employed where applicable, but it is recognized that other approved methods may be required in applying some of the criteria. The Illinois Sanitary Water Board shall designate the alternate procedure in "Standard Methods", and approve any departure from these procedures, with the concurrence of the Federal Water Pollution Control Administration.

DBM:mh Revised
101766 081867 032568 & 111568

Rule 1.02 Stream Sectors

a) The Ohio River is designated for aquatic life, recreation, industrial water supply and public water supply, therefore, all criteria shall apply as specified in Rules 1.03 through 1.07, below.

b) The Saline River, is considered to be available for livestock watering, wild-life, fish and aquatic life. Aquatic life criteria shall apply to these streams listed in Rule 1.01 above, as well as Rule 1.03, below.

Rule 1.03 Minimum Conditions

These Minimum Criteria shall apply to all waters at all places and at all times in addition to specific criteria applicable to specific sectors.

a) Free from substances attributable to municipal, industrial or other discharges that will settle to form putrescent or otherwise objectionable sludge deposits; or which will form bottom deposits that may be detrimental to bottom biota (such as coal fines, limestone dust, fly ash, etc.)

b) Free from floating debris, oil, scum and other floating materials attributable to municipal, industrial or other discharges in amounts sufficient to be unsightly or deleterious;

Oils, grease and floating solids shall be reduced to a level such that they will not create fire hazards, coat hulls of watercraft, injure fish or wildlife or their habitat, and will not adversely affect public or private recreational development or other legitimate shoreline developments or uses.

c) Free from materials attributable to municipal, industrial or other discharges producing color, odor or other conditions in such degree as to create a nuisance;

d) Free from substances attributable to municipal, industrial or other discharges in concentrations or combinations which are toxic or harmful to human, animal, plant or aquatic life.

Rule 1.04 Public Water Supply and Food Processing Industry

The following criteria are for evaluation of stream quality at the point at which water is withdrawn for treatment and distribution as a potable supply:

a) Bacteria: Coliform group not to exceed 5,000 per 100 ml as a monthly average value (either MPN or MF count); nor exceed this number in more than 20 percent of the samples examined during any month; nor exceed 20,000 per 100 ml in more than five percent of such samples.

b) Dissolved solids: Not to exceed 500 mg/l as a monthly average value, nor exceed 750 mg/l at any time. For Ohio River Water, values of specific conductance of 800 and 1,200 micromhos/cm (at 25 deg. C.) may be considered equivalent to dissolved-solids concentrations of 500 and 750 mg/l.

c) Radioactive substances: Gross beta activity not to exceed 1,000 picocuries per liter (pCi/l), nor shall activity from dissolved strontium-90 exceed 10 pCi/l, nor shall activity from dissolved alpha emitters exceed 3 pCi/l.

d) Chemical constituents: Not to exceed the following specified concentrations at any time:

Constituent	(mg/l)	Constituent	(mg/l)
Arsenic	0.05	Barium	1.0
Cadmium	0.01	Chromium (hexavalent)	0.05
Cyanide	0.025	Fluoride	1.0
Lead	0.05	Selenium	0.01
Silver	0.05		

Rule 1.05 For Aquatic Life Sectors

The following criteria are for evaluation of conditions for the maintenance of a well-balanced, warm-water fish population. They are applicable at any point in the stream except for areas immediately adjacent to outfalls. In such areas cognizance will be given to opportunities for the admixture of waste effluents with river water.

a) Dissolved oxygen: Not less than 5.0 mg/l during at least 16 hours of any 24-hour period, nor less than 4.0 mg/l at any time;

b) pH: No values below 6.0 nor above 9.0, and daily average (or median) values preferably between 6.5 and 8.5.

c) Temperature: Not to exceed 90 deg. F. at any time during the months of April through November, and not to exceed 60 deg. F. at any time during the months of December to April.

d) Toxic Substances: Not to exceed one-tenth of the 48-hour median tolerance limit, for fish except that other limiting concentrations may be used in specific cases when justified on the basis of available evidence and approved by the appropriate regulatory agency.

e) Taste and Odor: Waters shall be free of substances from other than natural origin which will result in impairment of taste, odor or other factors which would reduce the acceptability of fishes for human consumption.

Rule 1.06 For Recreation Sector

The following criterion is for evaluation of conditions at any point in waters designated to be used for recreational purposes, including such water-contact activities as swimming and water skiing:

Bacteria - Number per 100 ml by MF Techniques or by MT Fermentation

a. Bacteria: As determined by multiple-tube fermentation or membrane filter procedures, and based on a minimum of not less than five samples taken over not more than a 30-day period, the fecal coliform content of primary contact recreation waters shall not exceed a geometric mean of 200/100 ml, nor shall more than 10% of total samples during any 30-day period exceed 400/100 ml.

(Primary contact recreation is intended to include activities in which there is prolonged and intimate contact with the water involving considerable risk of ingesting water.)

b. Bacteria: The fecal coliform content of secondary contact recreation waters, as determined by either multiple-tube fermentation or membrane filter techniques, shall not exceed a geometric mean of 1,000/100 ml, nor shall they equal or exceed 2,000/100 ml in more than 10% of the samples.

(This criterion is intended to provide for water uses customarily described as "Secondary contact uses", including boating, fishing, and limited contact with water incident to shoreline activities; in which contact with the water is either incidental or accidental and the probability of ingesting appreciable quantities of water is minimal.)

Rule 1.07 For Industrial Water Supply Sector

The following criteria are applicable to stream water at the point at which the water is withdrawn for use (either with or without treatment) for industrial cooling and processing, and at any point in the industrial water use sector:

a) Dissolved Oxygen: Not less than 3.0 mg/l during at least 16 hours of any 24-hour period, not less than 2.0 mg/l at any time.

b) pH: Not less than 6.0 nor greater than 9.0 at any time.

c) Temperature: Not to exceed 90 deg. F. at any time.

d) Dissolved solids: Not to exceed 750 mg/l as a monthly average value, nor exceed 1,000 mg/l at any time. For Ohio River water, values of specific conductance of 1,200 and 1,600 micromhos/cm (at 25 deg. D.) may be considered equivalent to dissolved-solids concentrations of 750 and 1,000 mg/l.

e) All items of Minimum Conditions applicable to all waters at all places at all times. (See Rule 1.03)

Rule 1.03 Implementation and Enforcement Plan

1. The Illinois Sanitary Water Board, under the 1951 Sanitary Water Board Act as amended (Ch. 19, Par. 145.1 - 145.18, IRS 1965), has the responsibility to control and prevent pollution in the waters of this State exclusive of the area embraced by Metropolitan Sanitary District of Greater Chicago. Authority to adopt and enforce water quality standards within the Metropolitan Sanitary District is contained in the recently adopted HB 1177, 75th General Assembly.

2. The Board adopted the criteria, Rules and Regulations SWB-10, December 1, 1966 as standards of water quality for the waters of the Ohio River and the Saline River and each tributary at its confluence with the main stream. All waters will be required to meet the standards for the appropriate public and industrial water supply, aquatic life, recreational and agricultural uses. Compliance with these standards will enhance the quality of waters within these streams.

Waters whose existing quality is better than the established standards as of the date which such standards become effective will be maintained in their present high quality within the powers granted by the "Illinois" water pollution control statues. Such waters will not be lowered in quality unless and until it has been affirmatively demonstrated to the Federal Water Pollution Control Administration that such change is justifiable as a result of necessary economic or social development and will not interfere with or become injurious to, any appropriate beneficial uses made of, or presently possible in, such waters.

3. The minimum weekly flow, which occurs once in 10 years, will be used in applying the standards. The Board plans to require compliance with the bacteriological standards for recreation during the recreational season of April through October inclusive. It is recognized that there are uncontrollable sources of bacterial pollution other than that of sewage treatment plant effluents.

4. Drastic or sudden temperature changes will not be permitted. The Board will insist upon controlled changes in temperature not to exceed 2 deg. F. per hour, nor more than a 5 deg. cumulative change from natural water temperature.

5. The Board collects samples from various locations on streams in the Ohio River Basin. Monthly samples are collected from the Cairo water supply intake monthly as part of the Federal water quality network. Additional stations are being added as needed.

6. Rules and Regulations, SWB 2, require the certification of waste treatment plant operators. The prompt and regular submission of monthly operational reports is required to enable evaluation of effluent quality. Certification and record of operation report submissions are recorded in a computer system to facilitate periodic data processing. The frequency of inspections of wastewater treatment plants by representatives of the Board have been increased and will be increased more to insure compliance with the standards.

7. All municipalities having effluent discharge to the Ohio River must provide a minimum of secondary treatment when existing primary facilities approach design capacity or obsolescence or by the end of 1977.

Secondary treatment must be provided by all municipalities which will discharge effluent to the Saline River.

8. All industries will be required to provide a degree of treatment or control that is equivalent to that required of municipalities. In some instances supplemental or advanced waste treatment in excess of secondary treatment may be necessary.

9. It is the plan of the Board that, where needed, the control of pollution caused by combined sewer overflow or storm flow bypassing at sewage treatment works be provided at the time of improvement or expansion of treatment works. The separation of combined sewers or special treatment works in some instances, the reduction of nutrients and provision of tertiary treatment should be accomplished, where deemed necessary, within the next ten years, or as practical technical methods are developed.

10. Treatment Requirements and Effluent Criteria

In order to establish a basis for treatment works design, municipal and industry representatives and consultants frequently inquire regarding the limits or effluent standards that must be met. The adoption of stream water quality criteria as required by the Federal Water Quality Act of 1965 (PL 89-234 amendments to PL 84-660; 33 U.S.C. 466) emphasizes the need to relate stream quality to effluent quality and treatment requirements. The expressed goals established by this Act are to protect and upgrade water quality; any wastes amenable to treatment or control must receive the best practicable treatment or control prior to discharge into any interstate water. The same goals have been, and continue to be, basic under the Sanitary Water Board Act for all waters of Illinois. Both the Federal Law and the Illinois Act prohibit the use of any stream or portion thereof for the sole or principal purpose of transporting wastes.

a. All municipal or industrial facilities for treatment of deoxygenating waste shall provide at least secondary biological treatment, or advanced waste treatment, adequate to reduce the organic pollution load of the treatment works effluent at the final treatment structure in accordance with effluent guidelines in paragraph 11, below. A final treatment structure is considered the last point of access before discharge to waters of the State. Effluents shall meet all criteria expressed in Item b, below.

b. All facilities for the treatment of sewage, industrial wastes, or other wastes shall provide for the following:

1) Substantially complete removal of settleable solids.
2) Removal of all floating debris, oil, grease, scum, or sludge solids.
3) Removal of color, odor, or turbidity to below obvious levels.
4) Removal of heavy metals, or of toxic and odor-producing substances in accordance with the levels of constituents and properties determined by the Board.

c. Storage facilities for materials which are hazardous to health and welfare, and for oils, gases, fuels, or other materials capable of causing water pollution if accidentally discharged, shall be located so as to minimize or prevent any spillage or leakage that might result in water pollution. Structures and devices to contain spillage, such as catchment areas, relief vessels, or entrapment-dikes, should be installed at existing facilities, shall be installed at all new facilities, and shall be required following any discharge resulting in pollution.

11. Guidelines Regarding Range of Treatment

a. Secondary treatment resulting in effluents ranging from 20 to 40 mg/l five day BOD and 25 to 45 mg/l suspended solids is acceptable on the Ohio River and Saline River. Tertiary or other advance treatment or modifications of conventional treatment will be specified for all intermittent streams and small or low flow streams. Treatment shall include effluent disinfection at least through the recreational season of April through October.

b. Permissive Treatment & Effluent Requirements
Based on Average Strength Municipal Wastes

Treatment	BOD or ODI Reduction Percent	Effluent BOD or ODI mg/l	Effluent Suspended Solids mg/l	Type Facilities	Stream Dilution Requirements
Secondary	80	40	45	Trickling Filter	Ohio River and Saline River
Secondary	90	20	25	*Activated Sl.	2 to 1
	*(or trickling filter & supplemental treatment)				
Tertiary	95	10	13	Secondary plus Supplemental	1 to 1

Disinfection with up to 1 mg/l of chlorine residual in the effluent to reduce fecal coliform to 400 or less for primary contact waters or to 2000 or less for secondary contact waters.

Bypass flows in excess of waste treatment works capacity shall be given primary treatment, and chlorination if necessary, in auxiliary facilities.

c. Within design limitations, operation shall be of such quality to obtain the best possible degree of treatment from all treatment works. Every effort must be made to eliminate all system bypasses and overflows, otherwise measures must be taken to provide treatment units such as lagoons, detention or holding basins, and chlorination. Installation of new combined sewers are prohibited. Existing combined sewer systems should be patrolled; overflow regulating devices shall be adjusted to convey the maximum practicable amount of combined flow to l treatment facilities. Excess infiltration into the sewer system should be eliminated to keep dry weather flow within design limits of conduits and treatment works.

12. The Board will follow Typical Project Completion Schedules listed below:

a. Chlorination Facilities

1) Completion of plans and specifications - 12 months before completion date.

2) Award of construction contracts - 6 months before completion date.

b. Treatment Works - Municipalities less than 10,000 population and Industries.

1) Completion of plans and specifications - 18 months before completion date.

2) Award of construction contracts - 12 months before completion date.

c. Treatment Works - Municipalities above 10,000 population.

1) Completion of plans and specifications - 30-33 months before completion date.

2) Award of construction contracts - 21 - 24 months before completion date.

13. If it appears at any time prior to the above dates that there will not be compliance with the timetables, the Board will hold administrative hearings and issue orders to submit shedule for abatement of pollution with a minimum time for completion of waste treatment facilities. When a waste producer fails to comply with an order, the Board will initiate legal action through the Attorney General for enforcement of the order in the appropriate Court.

14. The Board will require and has scheduled construction of municipal treatment works improvements in accordance with the timetable, page 10.

15. All industries with effluent discharge will be required to construct additional or improved treatment works in accordance with the timetable, page 11.

STATUS OF MUNICIPAL WASTE FACILITIES TRIBUTARY TO OHIO RIVER AND SALINE RIVER

Municipality or Sanitary District	1960 Pop.	Receiving Stream	Type Sewer System Treat.-Design P.E.	Date Built	Additional Requirement	Approved Schedule for Constr. Completion
Brookport	1154	Ohio River	Sep. Sewer Secon.-1500 P.E.	1963	None	
Cairo	9348	Ohio River	Comb. & Sewer Primary - 10000 P.E.	1964	Secondary	Dec. 1977
Elizabethtown	524	Ohio River	Sep. Sewer Secon.-1500 P.E.	1947	Secondary	Dec. 1977
Ft. Massac St. Park		Ohio River		Plant Improvements		July 1968
Golconda	864	Ohio River	Sep. Sewer Secon.-1000 P.E.	1961	None	
Golconda Job Corps		Ohio River	Secon-120 P.E. and Cl_2	1965	Improvements	Jan. 1968
Joppa S.D.	5780	Ohio River	Sep. Sewer Primary - 1000 P.E.	1959	Secondary	Dec. 1977
Metropolis	7339	Ohio River	Comb. Sewer Pri. - 15000 P.E.	1960	Secondary	Dec. 1977
Missouri Portland Cement		Ohio River	Secon.-60 P.E.	1962	None	
Rosiclare	1700	Ohio River	Comb. & Sep. Primary-3800 P.E.	1952	Secondary	Dec. 1977

STATUS OF INDUSTRIAL WASTE FACILITIES TRIBUTARY TO OHIO RIVER AND SALINE RIVER

Entity	Type of Waste	Treatment Provided	Additional Requirements	Approved Schedule for Starting Construction
Alcoa	Fluorspar Mine	No treatment	Solids Removal	January 1, 1969
Allied Chemical Corporation	Inorganic Chemicals	Lagoon	None	
Crystal-Minerva Oil	Fluorspar Mine	No treatment	Solids Removal	January 1, 1969
Ozark Mahoning	Fluorspar Mine	No treatment	Solids Removal	January 1, 1969
Marshall Equipment Company	Coal Mine	No treatment	Drainage Control Refuse Cover	Penalty Action and Injunction Company Bankrupt
Kennicote-Peabody Eagle Mine	Coal Mine	Drainage Control	None	

ARTICLE II

Rule 2.01 These rules and regulations Rule 1.01 through Rule 1.07 were adopted by the Sanitary Water Board December 1, 1966.

Rule 2.02 The implementation and Enforcement Plan, Rule 1.08 and the corrections to Rule 1.01 through 1.07 are hereby adopted December 17, 1968.

Rule 2.03 These Rules and Regulations designated as SWB-10, Interstate Waters - Ohio River and Saline River shall be in full force and effect on or after December 17, 1968.

(absent)
Franklin D. Yoder, M.D., M.P.H.
Chairman, Sanitary Water Board
State of Illinois

William T. Lodge, Acting Chairman

Attest:

Clarence W. Klassen, Technical Secretary
Sanitary Water Board, State of Illinois

Dated: December 17, 1968

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ILLINOIS SANITARY WATER BOARD

Rules and Regulations SWB-11

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WATER QUALITY STANDARDS

Interstate Waters
Rock River, Fox River, DesPlaines River, Kankakee River
and certain named interstate tributaries

Criteria Adopted-December 1, 1966
Implementation Plan Submitted August 25, 1967
Approved by U.S. Department of Interior January 27, 1968
Sanitary Water Board Reapproved March 5, 1968

TABLE OF CONTENTS

Illinois Sanitary Water Board
Rules and Regulations SWB-11
Rock River, Fox River, DesPlaines River, Kankakee River and certain named interstate tributaries

	Page
Authority and Statement of Policy	1
Introduction - Water Quality Criteria - Rule 1.01	1
1. Purpose of Criteria	1
2. Laboratory Control Standard Methods	1
Stream Sectors and Uses - Rule 1.02	2
Minimum Criteria - Rule 1.03	2
Stream Criteria - For Public Water Supply - Rule 1.04	2
Stream Criteria - For Aquatic Sectors - Rule 1.05	3
Stream Criteria - For Recreation Sector - Rule 1.06	4
Stream Criteria - For Industrial Water Supply Sector - Rule 1.07	4
Implementation and Enforcement Plan - Rule 1.08	5
1. Authority	5
2. Criteria adopted SWB - 11	5
3. Minimum Flows	5
4. Temperature Change	5
5. Surveillance	5
6. Operator Certification, reports and inspection	5
7. Municipal Treatment Improvement	5
8. Industrial Treatment Improvement	6
9. Combined Sewers - nutrients - tertiary treatment	6
10. Treatment Requirements and Effluent Criteria	6
a. Deoxygenating Waste	6
b. Basic treatment	6
c. Hazardous Product Storage	6
11. Guidelines Range of Treatment	6
12. Typical Project Schedule	7
13. Enforcement Action	7
14. Schedule Municipal Treatment	8
Table - Rock River and Miscellaneous	9 - 11
Table - Fox River	15- 16
Table - DesPlaines River	17
Table - Kankakee River and Iroquois River	18
15. Schedule Industrial Treatment	
Table - Rock River and Miscellaneous	12- 13
Table - Fox River	14
Table - DesPlaines	17
Table - Kankakee and Iroquois	18

Effective Dates: Rule 2.0l, 2.02 and 2.03

RIVER SITE MAP

ILLINOIS SANITARY WATER BOARD

Rules and Regulations SWB-11

Rock River, Fox River-DesPlaines River-Kankakee River
and certain named interstate tributaries

AUTHORITY

Pursuant to the authority contained in Sec. 6, Paragraphs (b) and (f) of "An Act to establish a Sanitary Water Board and to control, prevent, and abate pollution of the streams, lakes, ponds, and other surface and underground waters in the State" (approved and in force July 12, 1961, Par. 145.6, Ch. 19, Ill. Rev. Stat. 1965), the Sanitary Water Board adopts the following Rules and Regulations.

STATEMENT OF POLICY

In the above Act, it has been declared to be the public policy of this State to maintain reasonable standards of purity of the waters of the State consistent with their use for domestic and industrial water supplies, for the propagation of wildlife, fish and aquatic life, and for domestic, agricultural, industrial, recreational and other legitimate uses, including their use in the final distribution of the water-borne wastes of our economy. It has also been declared to be the public policy of this State to provide that no waste be discharged into any waters of the State without first being given the degree of treatment necessary to prevent the pollution of such waters.

WATER QUALITY CRITERIA

ARTICLE 1

Rule 1.01. Introduction

These criteria of water quality prescribe the qualities or properties of the waters of the State which are necessary for the designated public use or benefit, and which, if the limiting conditions given are exceeded, shall be considered indicative of a polluted condition subject to abatement.

These stream criteria shall be applicable to the following interstate streams: The Sinsinawa River and Galena River tributary to the Mississippi River; The Pecatonica River, Richland Creek and Sugar River tributary to the Rock River; The Rock River; The North Branch Nippersink Creek and Nippersink Creek from the North Branch to the Fox River; The Fox River; North Mill Creek and Mill Creek from North Mill Creek to the Des Plaines River; The Des Plaines River from the Wisconsin Border to the confluence with the Chicago Sanitary and Ship Canal; The Kankakee River; The Iroquois River; and, Sugar Creek from the Indiana Border to the Iroquois River.

"Standard Methods for the examination of Water and Waste Water", Twelfth Edition, 1965, American Public Health Association, Inc. should be employed where applicable, but it is recognized that other approved methods may be required in applying some of the criteria. The Illinois Sanitary Water Board shall designate the alternate procedure in "Standard Methods",*and approve any departure from these procedures, with the concurrence of the Federal Water Pollution Control Administration.*

EDITOR'S NOTE: Changes requested by U.S. Department of Interior are*italicized.*
Revised-110766, 081867, 030568
DBM:mh

Rule 1.02 STREAM SECTORS *AND USES*

a) The Sinsinawa River, Galena River, Richland Creek, Sugar River (to the Rock River) and North Mill Creek are considered to be available for wildlife, fish, and aquatic life. The stream water quality should meet criteria for aquatic life and minimum conditions applicable to all waters.

b) The Pecatonica River, Rock River, North Branch Nippersink Creek, Fox River, and Des Plaines River are used for the carriage of municipal and industrial treated effluents, for fishing, boating, and recreation (including full body contact), and for industrial water supply. The stream quality should meet all of the criteria and requirements for all uses, except public water supply.

c) The Kankakee River, the Iroquois River and Sugar Creek are used for the carriage of municipal and industrial treated effluents, for skiing, boating and recreation (including full body contact), for industrial water supply and for public water supply. The stream water quality should meet all of the criteria and requirements for all uses.

d) Water from any of the above streams meeting the criteria as specified are believed suitable for agricultural usage.

Rule 1.03 MINIMUM CONDITIONS

These Minimum Criteria shall apply to all waters at all places and at all times in addition to specific criteria applicable to specific sectors.

a) Free from substances attributable to municipal, industrial or other discharges that will settle to form putrescent or otherwise objectionable sludge deposits; or which will form bottom deposits that may be detrimental to bottom biota (such as coal fines, limestone dust, fly ash, etc.)

b) Free from floating debris, oil, scum and other floating materials to municipal, industrial or other discharges in amounts sufficient to be unsightly or deleterious;

Oils, grease and floating solids shall be reduced to a point such that they will not create fire hazards, coat hulls of watercraft, injure fish or wildlife or their habitat, or will adversely affect public or private recreational development or other legitimate shoreline developments or uses.

c) Free from materials attributable to municipal, industrial or other discharges producing color, odor or other conditions in such degree as to create a nuisance;

d) Free from substances attributable to municipal, industrial or other discharges in concentrations or combinations which are toxic or harmful to human, animal *plant* or aquatic life.

Rule 1.04 FOR PUBLIC WATER SUPPLY *and FOOD PROCESSING INDUSTRY*

The following criteria are for evaluation of river quality at the point at which water is withdrawn for treatment and distribution as a potable supply:

a) Bacteria: Coliform group not to exceed 5,000 per 100 ml as a monthly average value (either MPN or MF count); nor exceed this number in more than 20 per cent of the samples examined during any month; nor exceed 20,000 per 100 ml in more than five per cent of such samples.

b) Dissolved solids: Not to exceed 500 mg/1 as a monthly average value, nor exceed 750 mg/1 at any time. Values of specific conductance of 750 and 1025 micromhos/cm (at 25 deg. C.) may be considered equivalent to dissolved solid concentration of 500 to 750 mg/1.

c) Chemical Constituents: Not to exceed the following specific concentration at any time:

Stream Samples

Constituent	Concentration mg/1
Acidity (Total)	0.0
Ammonia Nitrogen (N)	2.5
*Arsenic	0.05
*Barium	1.0
*Cadmium	0.01
CCE (Carbon Chloroform Extract)	0.2
Chloride	150
*Chromium-Hexavalent (Chromate or dichromate)	0.05
*Chromium-Trivalent (Chromic or chromite)	1.00
*Copper	1.0
Cyanide	0.025
Fluoride	1.00
Iron (total)	0.3
*Lead	0.05
MBAS	0.5
Nitrate (as NO_3)	45
Oil Substantially free of visible floating oil	
pH 6.0 - 9.0	
Phenols	.02
Phosphate	4.0
*Selenium	0.01
*Silver	0.05
Sulphate	200
Temperature 90°F	
*Zinc	5.0
*Heavy Metals	5.0

d) Radio active substances: Gross beta activity in the known absence of Strontium 90 and alpha omitters not to exceed 1,000 micromicro curies per liter at any time. *"Absence of" is defined as not more than 10 pico curies of Strontium 90 and 3 pico curies of alpha radiation.*

Rule 1.05 FOR AQUATIC LIFE SECTORS

The following criteria are for evaluation of conditions at any point in the river, except for areas immediately adjacent to outfalls. In such areas cognizance will be given to opportunities for the admixture of waste effluents with river water:

a) Dissolved oxygen:

For maintenance of well balanced aquatic life habitats the dissolved oxygen content shall be not less than 5.0 mg/1 during at least 16 hours of any 24-hour period, nor less than 4.0 mg/1 at any time.

b) pH:

No value below 6.0 nor greater than 9.0 at any time, and preferably between 6.5 and 8.5.Sampling shall be beyond 100 feet of an outfall sewer.

c) Temperature:

Not to exceed 90 deg. F. at any time during the Months of *April* through November, and not to exceed 60 deg. F. at any time during the months of December to *April.*

d) Toxic substances:

Not to exceed one-tenth of the 48-hour median tolerance limit, for fish, except that other limiting concentrations may be used in specific cases. Chemical constituents listed below are not to exceed the specific concentration at any time at any point in aquatic sectors of the basin, except for areas immediately adjacent to outfalls.

Constituent	Concentration mg/1
Ammonia Nitrogen (N)	2.5
*Arsenic	1.0
*Barium	5.0
*Cadmium	0.05
*Chromium-Hexavalent	0.05
*Chromium-Trivalent	1.00
*Copper	0.04
Cyanide	0.025
Iron	1.00
*Lead	0.1
Phenols	0.2
*Silver	0.05
*Zinc	1.00

*Heavy Metals

e) *Taste and Odor: Waters shall be free of substance from other than natural origin which will result in impairment of taste, odor or other factors which would reduce the acceptability of fishes for human consumption.*

Rule 1.06 FOR RECREATION SECTOR

The following criteria is for evaluation of conditions at any point in a recreation sector used for such water contact activities as swimming and water skiing.

Bacteria - Number per 100 ml by MT Fermentation or MF Techniques

Bacteria: As determined by multiple-tube fermentation or membrance filter procedures, and based on a minimum of not less than five samples taken over not more than a 30-day period, the fecal coliform content of primary contact recreation waters shall not exceed a geometric mean of 200/100 ml, nor shall more than 10% of total samples during any 30-day period exceed 400/100 ml.

(Primary contact recreation is intended to include activities in which there is prolonged and intimate contact with the water involving considerable risk of ingesting water.)

Rule 1.07 FOR INDUSTRIAL WATER SUPPLY SECTOR

The following criteria are applicable to stream water at the point at which the water is withdrawn for use for industrial cooling and processing; and at any point in the industrial water use sector:

a) Dissolved Oxygen: Not less than 3.0 mg/1 during at least 16 hours of any 24-hour period, nor less than 2.0 mg/1 at any time.

b) pH: Not less than 6.0 nor greater than 9.0 at any time.

c) Temperature: Not to exceed 90 deg. F. at any time.

d) Dissolved Solids: Not to exceed 750 mg/1 as a monthly average value, nor *exceed* 1,000 mg/1 at any time.

e) All items of Minimum Conditions applicable to all waters at all places and at all times. (See Rule 1.03)

f) *Bacteria: The fecal coliform content of secondary contact recreation waters, as determined by either multiple-tube fermentation or membrane filter techniques, shall not exceed a geometric mean of 1,000/100 ml, nor shall they equal or exceed 2,000/100 ml in more than 10% of the samples.*

(This criterion is intended to provide for water uses customarily described as "secondary contact uses", including boating, fishing, and limited contact with water incident to shoreline activities; in which contact with the water is either incidental or accidental and the probability of ingesting appreciable quantities of water is minimal.)

Rule 1.08 *IMPLEMENTATION AND ENFORCEMENT PLAN*

1. The Illinois Sanitary Water Board, under the 1951 Sanitary Water Board Act as amended (Ch. 19, Par. 145.18, IRS 1965), has the responsibility to control and prevent pollution in the waters of this State exclusive of the area embraced by Metropolitan Sanitary District of Greater Chicago. Authority to adopt and enforce water quality standards within the Metropolitan Sanitary District is contained in the recently adopted HB 1177, 75th General Assembly.

2. The Board adopted the criteria, Rules and Regulations SWB-11, December 1, 1966 as standards of water quality for the waters of the Rock River, Fox River, Des Plaines River, Kankakee River and certain named interstate tributaries. All waters will be required to meet the standards for the appropriate public and industrial water supply, aquatic life, recreational and agricultural uses. *Compliance with these standards will enhance the quality of waters within these streams.*

   Waters whose existing quality is better than the established standards as of the date which such standards become effective will be maintained in their present high quality within the powers granted by the "Illinois" water pollution control statues. Such waters will not be lowered in quality unless and until it has been affirmatively demonstrated to the Federal Water Pollution Control Administration that such change is justifiable as a result of necessary economic or social development and will not interfere with or become injurious to, any appropriate beneficial uses made of, or presently possible in, such waters.

3. *The minimum weekly flow, which occurs once in 10 years, will be used in applying the standards.* The Board plans to require compliance with the bacteriological standards for recreation during the recreational season of April through October inclusive. It is recognized that there are uncontrollable sources of bacterial pollution other than that of sewage treatment plant effluents.

4. *Drastic or sudden temperature changes will not be permitted. The Board will insist upon controlled changes in temperature not to exceed 2 deg. F. per hour, nor more than a 5 deg. cumulative change from natural water temperature.*

5. The Board collects samples bimonthly from various locations on streams in these river basins. Additional stations are being added as needed and electronic stations are programmed as budgeting permits.

6. Rules and Regulations, SWB 2, require the certification of waste treatment plant operators. The prompt and regular submission of monthly operational reports is required to enable evaluation of effluent quality. Certification and record of operation report submissions are recorded in a computer system to facilitate periodic data processing. The frequency of inspections of wastewater treatment plants by representatives of the Board have been increased and will be increased more to insure compliance with the standards.

7. *Secondary treatment must be provided by all municipalities, including disinfection of the effluent. Where necessary to improve water quality and to reduce algae growths supplemental treatment will be required to the fullest extent consistent with research and technological advances.* The reduction of nutrients contributed by treated sewage effluents should be accomplished within the next ten years, however, it is recognized that there are other uncontrollable sources of nutrients.

8. *All industries will be required to provide a degree of treatment or control that is equivalent to that required of municipalities.* In some instances supplemental or advanced waste treatment in excess of secondary treatment may be necessary.

9. It is the plan of the Board that, where needed, the control of pollution caused by combined sewer overflow or storm flow bypassing at sewage treatment works be provided at the time of improvement or expansion of treatment works. The separation of combined sewers or special treatment works in some instances, *the reduction of nutrients* and provision of tertiary treatment should be accomplished, where deemed necessary, within the next ten years, *or as practical technical methods are developed.*

10. *TREATMENT REQUIREMENTS AND EFFLUENT CRITERIA*

In order to establish a basis for treatment works design, municipal and industry representatives and consultants frequently inquire regarding the limits or effluent standards that must be met. The adoption of stream water quality criteria as required by the Federal Water Quality Act of 1965 (PL 89-234 amendments to PL 84-660; 33 U.S.C. 466) emphasizes the need to relate stream quality to effluent quality and treatment requirements. The expressed goals established by this Act are to protect and upgrade water quality; any wastes amenable to treatment or control must receive the best practicable treatment or control prior to discharge into any interstate water. The same goals have been, and continue to be, basic under the Sanitary Water Board Act for all waters of Illinois. Both the Federal Law and the Illinois Act prohibit the use of any stream or portion thereof for the sole or principal purpose of transporting wastes.

a. All municipal or industrial facilities for treatment of deoxygenating waste shall provide at least secondary biological treatment, or advanced waste treatment, adequate to reduce the organic pollution load of the treatment works effluent at the final treatment structure in accordance with effluent guidelines in paragraph 11, below. A final treatment structure is considered the last point of access before discharge to waters of the State. Effluents shall meet all criteria expressed in Item b below.

b. All facilities for the treatment of sewage, industrial wastes, or other wastes shall provide for the following:

   1) Substantially complete removal of settleable solids.

   2) Removal of all floating debris, oil, grease, scum, or sludge solids.

   3) Removal of color, odor, or turbidity to below obvious levels.

   4) Removal of heavy metals, or of toxic and odor-producing substances in accordance with the levels of constituents and properties determined by the Board.

c. Storage facilities for materials which are hazardous to health and welfare, and for oils, gases, fuels, or other materials capable of causing water pollution if accidentally discharged, shall be located so as to minimize or prevent any spillage or leakage that might result in water pollution. Structures and devices to contain spillage, such as catchment areas, relief vessels, or entrapment dikes, should be installed at existing facilities, shall be installed at all new facilities, and shall be required following any discharge resulting in pollution.

11. *Guidelines Regarding Range of Treatment*

a. Secondary treatment resulting in effluents ranging from 20 to 40 mg/1 five-day BOD and 25 to 45 mg/1 suspended solids is acceptable on the Illinois River and lower Des Plaines River. Tertiary or other advance treatment or modifications of conventional treatment will be specified for all intermittent streams and small or low flow streams, and shall include effluent disinfection at least through the recreational season of April through October.

b. Permissive Treatment & Effluent Requirements
Based on Average Strength Municipal Wastes

Type Treatment	BOD or ODI Reduction Percent	Effluent BOD ,ODI mg/1	Effluent Suspended Solids mg/1	Type Facilities	Stream Dilution Requirements
Secondary	85	30	35	Trickling Filter	Illinois and Des Plaines
Secondary	90	20	25	*Activated Sludge	2 to 1
*(or trickling filter & supplemental treatment)					
Tertiary	95	10	13	Secondary plus Supplemental	1 to 1

Disinfection with up to 1 mg/1 of chlorine residual in the effluent to reduce *fecal* Coliform to *400* or less, where necessary *for primary contact waters or to 2000 or less for secondary contact waters.*

Bypass flows in excess of waste treatment works capacity shall be given primary treatment, and chlorination if necessary, in auxiliary facilities.

c. Within design limitations, operation shall be of such quality to obtain the best possible degree of treatment from all treatment works. Every effort must be made to eliminate all system bypasses and over flows, otherwise measures must be taken to provide treatment units such as lagoons, detention or holding basins, and chlorination. Installation of new combined sewers are prohibited. Existing combined sewer systems should be patrolled; overflow regulating devices shall be adjusted to convey the maximum practicable amount of combined flow to treatment facilities. Excess infiltration into the sewer system should be eliminated to keep dry weather flow within design limits of conduits and treatment works.

12. *The Board will follow Typical Project Completion Schedules listed below:*

a. Chlorination Facilities

1) Completion of plans and specifications - 12 months before completion date.

2) Award of construction contracts - 6 months before completion date.

b. Treatment Works - Municipalities less than 10,000 Population and Industries

1) Completion of plans and specifications - 18 months before completion date.

2) Award of construction contracts - 12 months before completion date.

c. Treatment Works - Municipalities above 10,000 Population

1) Completion of plans and specifications - 30-33 months before completion date.

2) Award of construction contracts - 21-24 months before completion date.

13. If it appears at any time prior to the above dates that there will not be compliance with the timetables, the Board will hold administrative hearings and issue orders to submit schedule for abatement of pollution with a minimum time for completion of waste treatment facilities. When a waste producer fails to comply with an order, the Board will initiate legal action through the Attorney General for enforcement of the order in the appropriate Court.

14. The Board will require and has scheduled construction of municipal treatment works improvements *in accordance with the timetable,* pages 10 to 12, 15, 16, 18 and 19. *Phosphate removal will be required at the following municipal sewage works as soon as practicable methods are developed:* Village of Fox Lake, McHenry, Fox River Grove, Algonquin, Carpentersville, East Dundee, West Dundee, Elgin, Elgin State Hospital, St. Charles, Geneva, Batavia, Aurora Sanitary District, Oswego and the Yorkville-Bristol Sanitary District.

15. All industries with effluent discharge will be required to construct additional or improved treatment works *in accordance with the timetable,* pages 13, 14, 17 - 19.

EDITOR'S NOTE: Effective Date and Sanitary Water Board Certification on Page 19.

STATUS OF MUNICIPAL WASTE FACILITIES
TRIBUTARY TO ROCK RIVER

Municipality or Sanitary District	1960 Pop.	Receiving Stream	Type Sewer System Treat.-Design P.E.	Date Built	Additional Requirement	Approved Schedule for Starting Construction
Byron	1,578	Rock River	Separate Sewer Primary-1480 P.E.	1940	Secondary Chlorination	January 1, 1969
Dixon	19,565	Rock River	Separate Sewer Secon.-46000 P.E.	1940	Chlorination	May, 1967 Interim
Dixon State School		Rock River	Secon.-16500 P.E.	1935	Chlorination	May, 1967 Interim
Erie	1,215	Rock River	Primary-1200 P.E.	1956	Secondary Chlorination	January 1, 1969 May, 1967 Interim
Gem. Suburban, Inc. (Winnebago County)	250	Rock River	Separate Sewer Secon.-250 P.E.	1965	Chlorination	May, 1967 Interim
Kershaw Trailer Pk.	340	Rock River	Separate Sewer Secon.-340 P.E.	1961	Chlorination	May, 1967 Interim
Lee Co. Nursing Home	110	Rock River	Secon.-110 P.E.		Chlorination	May, 1967 Interim
Medusa Cement (Dixon)		Rock River	Secon.-250 P.E.	1949	Chlorination	May, 1967
Moline (So. Slope Plant)	10,000	Rock River	Comb. & Sep. Sewer Primary and Cl_2 - 17000 P.E.	1960	Secondary	January 1, 1969
Northwest Steel & Wire		Rock River	Secon.-100 P.E. and Cl_2	1965		
Oregon	3,732	Rock River	Comb. Sewer Secon. & Cl_2	1939	None	

STATUS OF MUNICIPAL WASTE FACILITIES
TRIBUTARY TO ROCK RIVER

Municipality or Sanitary District	1960 Pop.	Receiving Stream	Type Sewer System Treat.-Design P.E.	Date Built	Additional Requirement	Approved Schedule for Starting Construction
Prophetstown	1,802	Rock River	Comb. Sewer Secon.-1500 P.E.	1939	Chlorination	May, 1967 Interim
Rock Falls	10,261	Rock River	Separate Sewer Secon.-26,000 P.E. and Cl_2	1937	None	
Rockford Sanitary District	132,109	Rock River	Separate Sewer & Cl_2 Secon.-232,000 P.E.	1930 1967	Under Construction	
Rockton	1,833	Rock River	Separate Sewer Primary-4000 P.E.	1962	Secondary Chlorination	January 1, 1969 May, 1967 Interim
Silvis	3,973	Rock River	Separate Sewer Primary-6000 P.E.	1961	Secondary Chlorination	January 1, 1969 May, 1967 Interim
South Beloit	3,781	Rock River	Separate Sewer Primary-5,310 P.E.	1956	Secondary Chlorination	January 1, 1969 May, 1967 Interim
Sterling	15,688	Rock River	Combined Sewer Secon.-28,500 P.E. Cl_2	1939	None	

STATUS OF MUNICIPAL WASTE FACILITIES
TRIBUTARY TO MISCELLANEOUS STREAMS

Municipality or Sanitary District	1960 Pop.	Receiving Stream Basin	Type Sewer System Treat.-Design	Date Built	Additional Requirement	Approved Schedule for Starting Construction
Freeport	26,628	Pecatonica River Rock River	Separate Sewer Pri.-30,000 P.E.	1940	Secondary Chlorination	October, 1968
Galena	4,410	Galena River Mississippi River	Comb. Sewer Secon.-10,000 P.E.	1964	Chlorination	January, 1971
Hebron	701	N.Branch Nippersink Fox River	Separate Sewer Secon.-1080 P.E.	1940	Chlorination	April, 1968
Orangeville	491	Rich Richland Creek Rock River	No treatment		Secondary Chlorination	January, 1969
Pecatonica	1,659	Pecatonica River Rock River	Separate Sewer Pri.-1,400 P.E.	1939	Secondary Chlorination	January, 1969
Richmond	855	N.Branch Nippersink Fox River	Separate Sewer Secon.-1,350 P.E.	1927 1958	Chlorination	April, 1968

STATUS OF INDUSTRIAL WASTE FACILITIES
TRIBUTARY TO ROCK RIVER

Entity	Type of Waste	Treatment Provided	Additional Requirements	Approved Schedule for Starting Construction
Armour Company	Slaughter House	Lagoons	None	
Murman Company	Poultry Processing	Lagoons	Improvement	January 1, 1969
N.W. Steel & Wire Company	Steel Mill	Mill Scale Settling Tanks Oil Recovery	Additional Oil Recovery	January, 1968
Russell, Birdsall & Ward	Metal Finishing	CN and Cr Treatment	Fe and Oil Bearing Waste treatment	January, 1968

STATUS OF INDUSTRIAL WASTE FACILITIES
TRIBUTARY TO MISCELLANEOUS STREAMS

Entity	Type of Waste Receiving Stream	Treatment Provided	Additional Requirement	Approved Schedule for Starting Construction
Hebron Packing Co.	Meat Packing N.Branch Nippersink	Lagoons	None	
LaForge Rend. Wks.	Meat Packing Pecatonica River	Lagoons	Additional Lagoons	July, 1969
Lugano Cheese (Orangeville)	Milk Processing Richland Creek	None	Aerated Lagoons	January, 1968
Modern Plating Co.	Plating Waste Pecatonica River	CN treatment CR treatment	None	

STATUS OF INDUSTRIAL TREATMENT FACILITIES TRIBUTARY TO FOX RIVER

Entity	Type of Waste	Treatment Provided	Additional Requirement	Approved Schedule for Completing Construction
Alba Mfg. Company (Aurora)	Glycerin Distillation	Sump	Refined Settling	January, 1969
Campana Corporation (Batavia)	Organic Wastes	Secondary	Improvement or to City Sewer	January, 1969
Hamley	Paper Fiber	Screening Settling Aeration	To City Sewer	October, 1967
Howell Company	Chromium	Chromium Recovery	Metals Removal	January, 1969
Kerber Packing Company	Meat Packing	Secondary and Chlorination	Reduce BOD	July, 1968
Moline Malleable Iron Company	Grit	Settling Lagoons	Settling Lagoons	January, 1969

STATUS OF MUNICIPAL WASTE FACILITIES TRIBUTARY TO FOX RIVER

Municipality or Sanitary District	1960 Pop.	Receiving Stream	Type Sewer System Treat.-Design P.E.	Date Built	Additional Requirement	Approved Schedule for Completing Construction
Algonquin	2692	Fox River	Separate Sewer Secon.-4000 P.E. and Cl_2	1936	Nutrient * Reduction	July, 1977
Aurora Sanitary District	85,000	Fox River	Comb. & Sep. Secon-90,000 P.E. and Cl_2	1928	Nutrient* Reduction	July, 1976
Batavia	7,496	Fox River	Comb. Sewer Secon.-19,000 P.E. and temp. Cl_2	1954	Perm. Chlorina. Nutrient Reduc.*	October, 1967 July, 1977
Carpentersville (Meadowdale)	17,424	Fox River	Comb. Sewer Secon.-34,000 P.E. and Cl_2	1954	Nutrient* Reduction	July, 1977
Cary	3,204	Fox River	Separate Sewer Secon.-3,500 P.E. and Cl_2	1922	Storm Flow Nutrient Reduc.*	July, 1977
East Dundee	2,221	Fox River	Separate Sewer Secon.-3850 P.E. and Cl_2	1955	Storm Flow	July, 1977
Elgin Sanitary District No.	7,250	Fox River	Comb. & Sep. Secon.-8000 P.E. and Cl_2		Storm Flow Nutrient Reduc.*	July, 1977
Elgin Sanitary District So.	45,200	Fox River	Comb. & Sep. Secon.-47,900 P.E. and Cl_2	1924 1955	Storm Flow Nutrient Reduc.*	July, 1977
Elgin State Hospital		Fox River	Secon.-10,000 P.E. and Cl_2	1951	Nutrient* Reduction	July, 1977

* The reduction of nutrients shall be provided within the next 10 years, or as soon as practical technical methods are developed.

STATUS OF MUNICIPAL WASTE FACILITIES
TRIBUTARY TO FOX RIVER

Municipality or Sanitary District	1960 Pop.	Receiving Stream	Type Sewer System Treat.-Design P.E.	Date Built	Additional Requirement	Approved Schedule for Completing Construction
Fox Lake	3,886	Fox River	Separate Sewer Secon.-10,000 P.E. and Cl_2	1961	Nutrient* Reduction	July, 1977
Geneva	7,646	Fox River	Separate Sewer Secon.-10,500 P.E. and Cl_2	1932	Storm Flow Nutrient Reduc.*	July, 1977
McHenry	3,336	Fox River	Separate Sewer Secon.-6,500 P.E. and Cl_2	1923	Nutrient* Reduction	July, 1977
Moose Heart	800	Fox River	Separate Sewer Secon.-900 P.E. and Cl_2	1925	Storm Flow Nutrient Reduc.*	July, 1977
Oswego	1,510	Fox River	Separate Sewer Secon.-4000 P.E. and Cl_2	1966	Storm Flow Nutrient Reduc.*	July, 1977
St. Charles	9,269	Fox River	Separate Sewer Secon.-24,000 P.E. and Cl_2	1936 1967	Nutrient Reduc.*	July, 1977
St. Joseph Resort		Fox River	Secondary	1958	Chlorination	April, 1969
Sheridan	704	Fox River	Separate Sewer Secon.-500 P.E.	1954	Renovation Chlorination	May, 1968
West Dundee	2,530	Fox River	Separate Sewer Secon.-5,000 P.E. and Cl_2	1936	Storm Flow Nutrient Reduc.*	July, 1977
Yorkville Bristol Sanitary District	2,200	Fox River	Comb. & Sep. Secon.-4,000 P.E. and Cl_2	1958	Nutrient* Reduction	July, 1977

* See Page 15

STATUS OF MUNICIPAL WASTE TREATMENT TRIBUTARY TO DES PLAINES RIVER

Municipality or Sanitary District	1960 Pop.	Receiving Stream	Type Sewer System Treat.-Design P.E.	Date Built	Additional Requirement	Approved Schedule for Starting Construction
Commonwealth Edison 7, 8, & 9		DesPlaines River	Secon.-100 P.E.	1962	Chlorination	April, 1968
Commonwealth Edison (Romeoville)		DesPlaines River	Secon.-100 P.E.	1962	Chlorination	April, 1968
Gages Lake S.D.	4100	DesPlaines River	Separate Sewer Secon.-6,000 P.E. and Cl_2	1963	Storm Flow	July, 1977
Libertyville (New Plant)	9341	DesPlaines River	Separate Sewer Secon.-20,000 P.E. and Cl_2	1967	None	
Lincolnshire	999	DesPlaines River	Separate Sewer Secon.-2,600 P.E. and Cl_2	1963	None	
Olin Mathieson		DesPlaines River	Primary-170 P.E.	1943	Secondary Chlorination	July, 1969
Ruberoid Company		DesPlaines River	Primary-250 P.E.	1966	Secondary Chlorination	July, 1968
Spinney Run Farm		DesPlaines River	Secon.-370 P.E. and Cl_2		None	
Industrial Ruberoid Company			Save all unit Improvement needed		Inadequate	July, 1968

STATUS OF MUNICIPAL WASTE FACILITIES
TRIBUTARY TO KANKAKEE RIVER

Municipality or Sanitary District	1960 Pop.	Receiving Stream	Type Sewer System Treat.-Design P.E.	Date Built	Additional Requirement	Approved Schedule for Starting Construction
Aroma Park	744	Kankakee River	No Sewers		Secon-Cl_2	July, 1969
Bourbonnais	3,336	Kankakee River	Separate Sewer Secon.-3,300 P.E. and Cl_2	1958	Tertiary & Storm Flow	June, 1969
Bradley	9,381	Kankakee River	Separate Sewer Secon.-11,000 P.E. and Cl_2	1955	Tertiary Storm Flow	July, 1976
Kankakee	27,666	Kankakee River	Comb. Sewer Secon.-68,000 P.E. and Cl_2	1937	Tertiary Storm Flow	July, 1968
Kankakee River (State Park)		Kankakee River	Secon.-100 P.E.	1958	Chlorination	July, 1968
Kankakee Utility Co.		Kankakee River	Secon.-700 P.E.	1959	Chlorination	July, 1969
Lorenzo School		Kankakee River	Secon.-60 P.E.	1960	Chlorination	July, 1968
Momence	2,947	Kankakee River	Separate Sewer Secon.-35,300 P.E. and Cl_2	1939	Storm Flow	July, 1976
Wilmington	4,210	Kankakee River	Combined Sewer Secon.-7,500 P.E.	1939	Chlorination Storm Flow	July, 1968 July, 1976
Wilmington State Boy School		Kankakee River	Secon.-50 P.E.	1941	Chlorination	July, 1968
Industrial: P.Carey Mfg.-Close System with settling and save-all-adequate Cooling Water Kankakee River					Reduce BOD Chlorination	July, 1968
Watseka	5,210	Iroquois River	Combined Sewer Secon.-8,000 P.E.	1956	Chlorination	July, 1968

ARTICLE II

Rule 2.01 These rules and regulations, Rule 1.01 through Rule 1.07, were adopted by the Sanitary Water Board December 1, 1966.

Rule 2.02 The Changes and amendments to Rule 1.01 through Rule 1.07 denoted in italics and the Implementation and Enforcement Plan, Rule 1.08, are hereby adopted March 5, 1968.

Rule 2.03 These rules and regulations designated as SWB-11, Rock River, Fox River, Des Plaines River, Kankakee River and certain named interstate tributaries shall be in full force and effect on and after April 1, 1968.

Franklin D. Yoder, M.D., M.P.H.
Chairman, Sanitary Water Board
State of Illinois

Attest:

Clarence W. Klassen
Technical Secretary
Sanitary Water Board

Dated: March 5, 1968

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ILLINOIS SANITARY WATER BOARD

Rules & Regulations SWB-12

WATER QUALITY STANDARDS

Interstate Waters

Mississippi River

Common Boundary

Between

Illinois and Iowa

Criteria Adopted March 7, 1967

Implementation Plan Submitted September 1, 1967

Sanitary Water Board Reapproval August 6, 1968

TABLE OF CONTENTS

Illinois Sanitary Water Board
Rules and Regulations SWB-12
Interstate Waters Mississippi River
Common Boundary Between Illinois and Iowa

	Page
Authority and Statement of Policy	1
Introduction - Water Quality Criteria - Rule 1.01	1
1. Purpose of Criteria	1
2. Laboratory Control Standard Methods	1
Stream Sectors and Uses - Rule 1.02	2
Minimum Criteria - Rule 1.03	2
Stream Criteria - For Public Water Supply - Rule 1.04	2
Stream Criteria - For Aquatic Sectors - Rule 1.05	3
Stream Criteria - For Recreation Sectors - Rule 1.06	4
Map	5
Implementation and Enforcement Plan - Rule 1.07	6
1. Authority	6
2. Criteria Adopted SWB-12	6
3. Minimum Flows	6
4. Temperature Change	6
5. Surveillance	6
6. Operator Certification, Reports and Inspection	6
7. Municipal Treatment Improvement	7
8. Industrial Treatment Improvement	7
9. Combined Sewers - Nutrients - Tertiary Treatment	7
10. Treatment Requirements and Effluent Criteria	7
a. Deoxygenating Waste	7
b. Basic Treatment	7-8
c. Hazardous Product Storage	8
11. Guidelines Range of Treatment	8-9
12. Typical Project Schedule	9
13. Enforcement Action	9
14. Schedule Municipal Treatment	9
Table	10
15. Schedule Industry Treatment	9
Table	11
Effective Date: Rule 2.01, 2.02, 2.03	12

ILLINOIS SANITARY WATER BOARD

Rules and Regulations SWB-12

Mississippi River Where It Is a Common
Boundary Between Illinois and Iowa

AUTHORITY

Pursuant to the authority contained in Sec. 6, Paragraphs (b) and (f) of "An Act to establish a Sanitary Water Board and to control, prevent, and abate pollution of the streams, lakes, ponds, and other surface and underground waters in the State" (approved and in force July 12, 1951, Par. 145.6, Ch. 19, Ill. Rev. Stat. 1965), the Sanitary Water Board adopts the following Rules and Regulations.

STATEMENT OF POLICY

In the above Act, it has been declared to be the public policy of this State to maintain reasonable standards of purity of the waters of the State consistent with their use for domestic and industrial water supplies, for the propagation of wildlife, fish and aquatic life, and for domestic, agricultural, industrial, recreational and other legitimate uses, including their use in the final distribution of the water-borne wastes of our economy. It has also been declared to be the public policy of this State to provide that no waste be discharged into any waters of the State without first being given the degree of treatment necessary to prevent the pollution of such waters.

WATER QUALITY CRITERIA

ARTICLE I

Rule 1.01. INTRODUCTION

These criteria of water quality prescribe the qualities or properties of the waters of the State which are necessary for the designated public use or benefit, and which, if the limiting conditions given are exceeded, shall be considered indicative of a polluted condition subject to abatement.

These stream criteria shall be applicable to the portion of the Mississippi River which forms a common boundary between Illinois and Iowa, and to each Illinois tributary at its confluence with the main stream. These criteria will be applicable at flows greater than the lowest flow for seven consecutive days which can be expected to occur at a frequency of once every ten years.

"Standard Methods for the examination of Water and Waste Water," Twelfth Edition, 1965, American Public Health Association, Inc., should be employed where applicable; but it is recognized that other approved methods may be required in applying some of the criteria. The Illinois Sanitary Water Board shall designate the alternate procedure in "Standard Methods," and approve any departure from these procedures, with the concurrence of the Federal Water Pollution Control Administration.

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Revised 090167
and 032568

Rule 1.02. STREAM SECTORS AND USES

The Mississippi River from the Illinois-Wisconsin border to the Iowa-Missouri border in the Des Moines River south of Keokuk, Iowa and Hamilton, Illinois, which forms a common boundary between Illinois and the State of Iowa, is designated for aquatic life, recreation, industrial water supply and public water supply; therefore, all criteria shall apply as specified in Rules 1.03 through 1.06 below.

Rule 1.03 MINIMUM CONDITIONS

The following conditions are applicable to all surface waters at all places and at all times:

a) Free from substances attributable to municipal, industrial or other discharges that will settle to form putrescent or otherwise objectionable sludge deposits;

b) Free from floating debris, oil, scum and other floating materials attributable to municipal, industrial or other discharges in amounts sufficient to be unsightly or deleterious;

c) Free from materials attributable to municipal, industrial or other discharges producing color, odor or other conditions in such degree as to be detrimental to legitimate uses of the water;

d) Free from substances attributable to municipal, industrial or other discharges in concentrations or combinations which are detrimental to human, animal, industrial, agricultural, recreational, aquatic or other legitimate uses of the water.

Rule 1.04 PUBLIC WATER SUPPLY AND FOOD PROCESSING INDUSTRY

The following criteria for surface water quality apply to the point at which water is withdrawn for treatment and distribution as a potable supply:

a) Bacteria: Waters shall be considered to be of unsatisfactory bacteriological quality as a source when:

1) a sanitary survey indicates the presence or probability of the presence of sewage or other objectionable bacteria-bearing wastes.

2) a bacteriological survey using coliform or other appropriate indices indicates bacteriological concentrations significantly higher than those normally found or expected in these waters when free from pollution by sewage.

b) Radioactive Materials:

Radium 226 and strontium 90 shall not exceed 3 and 10 pico-curies/liter respectively in the stream. In the absence of strontium 90 and alpha emitters, the gross beta concentration shall not exceed 1000 pico-curies/liter.

c) Chemical Constituents: Not to exceed the following specified concentrations at any time.

Constituent	(mg/l)	Constituent	(mg/l)
Arsenic	0.05	Cyanide	0.025
Barium	1.0	Fluoride	1.5
Cadmium	0.01	Lead	0.05
Chromium (hexavalent)	0.05	Phenols	0.02

d) All substances toxic or detrimental to humans or detrimental to treatment processes shall be limited to non-toxic or non-detrimental concentrations in the surface water.

Rule 1.05 FOR AQUATIC LIFE

The following criteria are designed for the maintenance and propagation of a well-balanced fish population. They are applicable to any place in surface waters but cognizance will be given to opportunities for admixture of waste effluents with such waters.

WARM WATER AREAS

a) Dissolved Oxygen: Not less than 5.0 mg/l during at least 16 hours of any 24-hour period and not less than 4.0 mg/l at any time.

b) pH: Not less than 6.8 nor above 8.5.

c) Temperature: Not to exceed 90° F. at any time.

d) Chemical Constituents:

All substances toxic or detrimental to aquatic life shall be limited to non-toxic or non-detrimental concentrations in the surface water.

Specific Constituents (mg/l)

Amonia Nitrogen (N)	2.0	*Copper	0.02
*Arsenic	1.0	Cyanide	0.025
*Barium	5.0	*Lead	0.10
*Cadmium	0.05	Phenols	0.20
*Chromium (Hexavalent)	0.05	*Zinc	1.0
*Chromium (Trivalent	1.00		

*Heavy Metals

The above specific chemical constituents shall not be exceeded at any time, nor exceed a maximum of 5.0 mg/l for the entire heavy metal group.

e) Taste and Odor: Waters shall be free of substance from other than natural origin which will result in impairment of taste, odor or other factors which would reduce the acceptability of fishes for human consumption.

Rule 1.06 FOR RECREATION

The following criteria are applicable to any waters used for recreational activities involving whole body contact such as swimming and water skiing:

Bacteria:

As determined by multiple-tube fermentation or membrane filter procedures, and based on a minimum of not less than five samples taken over not more than a 30-day period, the fecal coliform content of primary contact recreation waters shall not exceed a geometric mean of 200/100 ml, nor shall more than 10% of total samples during any 30-day period exceed 400/100 ml.

(Primary contact recreation is intended to include activities in which there is prolonged and intimate contact with the water involving considerable risk of ingesting water.)

RIVER SITE MAP

Rule 1.07 IMPLEMENTATION AND ENFORCEMENT PLAN

1. The Illinois Sanitary Water Board, under the 1951 Sanitary Water Board Act as amended (Ch. 19, Par. 145.1 - 145.18, IRS 1965), has the responsibility to control and prevent pollution in the waters of this State exclusive of the area embraced by Metropolitan Sanitary District of Greater Chicago. Authority to adopt and enforce water quality standards within the Metropolitan Sanitary District is contained in the recently adopted HB 1177, 75th General Assembly.

2. The Board adopted the criteria, Rules and Regulations SWB-12, March 7, 1967, as standards of water quality for the waters of the Mississippi River where it is a common boundary between Illinois and Iowa. All waters will be required to meet the standards for the appropriate public and industrial water supply, aquatic life, recreational and agricultural uses. Compliance with these standards will enhance the quality of waters within these streams

   Waters whose existing quality is better than the established standards as of the date which such standards become effective, will be maintained in their present high quality within the powers granted by the "Illinois" water pollution control statutes. Such waters will not be lowered in quality unless and until it has been affirmatively demonstrated to the Federal Water Pollution Control Administration that such change is justifiable as a result of necessary economic or social development and will not interfere with or become injurious to any appropriate beneficial uses made of, or presently possible in, such waters.

3. The minimum weekly flow, which occurs once in 10 years, will be used in applying the standards. The Board plans to require compliance with the bacteriological standards for recreation during the recreational season of April through October inclusive. It is recognized that there are uncontrollable sources of bacterial pollution other than that of sewage treatment plant effluents.

4. Drastic or sudden temperature changes will not be permitted. The Board will insist upon controlled changes in temperature not to exceed 2^{o} F. per hour, nor more than a 5^{o} F. cumulative change from natural water temperature.

5. The Board collects samples bimonthly from various locations on streams in the Mississippi River Basin. Monthly samples are collected from most of the Mississippi River stations and from one, the East St. Louis Water Co., as part of the Federal Water Quality network. Additional stations are being added as needed.

6. Rules and Regulations, SWB-2, require the certification of waste treatment plant operators. The prompt and regular submission of monthly operational reports is required to enable evaluation of effluent quality. Certification and record of operation report submissions are recorded in a computer system to facilitate periodic data processing. The frequency of inspections of wastewater treatment plants by representatives of the Board have been increased and will be increased more to insure compliance with the standards.

7. All municipalities on the Mississippi River which have or will have sewage treatment facilities must provide a minimum of secondary treatment when existing primary facilities approach design capacity or obsolescence, or by the end of 1977 where population is 10,000 or more, and by the end of 1979 where population is less than 10,000.

   Where a significant bacterial increase can be identified with a controllable waste discharge, chlorination or other control procedures to reduce the bacterial concentration is required.

8. All industries will be required to provide a degree of treatment or control that is equivalent to that required of municipalities. In some instances supplemental or advanced waste treatment in excess of secondary treatment may be necessary.

9. It is the plan of the Board that where needed, the control of pollution, caused by combined sewer overflow or storm flow bypassing at sewage treatment works, be provided at the time of improvement or expansion of treatment works. The separation of combined sewers or special treatment works in some instances, the reduction of nutrients and provision of tertiary treatment should be accomplished, where deemed necessary, within the next ten years, or as practical technical methods are developed.

10. Treatment Requirements and Effluent Criteria

    In order to establish a basis for treatment works design, municipal and industry representatives and consultants frequently inquire regarding the limits or effluent standards that must be met. The adoption of stream water quality criteria as required by the Federal Water Quality Act of 1965 (PL 89-234 amendments to PL 84-660; 33 U.S.C. 466) emphasizes the need to relate stream quality to effluent quality and treatment requirements. The expressed goals established by this Act are to protect and upgrade water quality; any wastes amenable to treatment or control must receive the best practicable treatment or control prior to discharge into any interstate water. The same goals have been, and continue to be, basic under the Sanitary Water Board Act for all waters of Illinois. Both the Federal Law and the Illinois Act prohibit the use of any stream or portion thereof for the sole or principal purpose of transporting wastes.

    a. All municipal or industrial facilities for treatment of deoxygenating waste shall provide at least secondary biological treatment, or advanced waste treatment, adequate to reduce the organic pollution load of the treatment works effluent at the final treatment structure in accordance with effluent guidelines in paragraph 11, below. A final treatment structure is considered the last point of access before discharge to waters of the State. Effluents shall meet all criteria expressed in Item "b" below.

    b. All facilities for the treatment of sewage, industrial wastes, or other wastes shall provide for the following:

       1) Substantially complete removal of settleable solids.

       2) Removal of all floating debris, oil, grease, scum, or sludge solids.

       3) Removal of color, odor, or turbidity to below obvious levels.

4) Removal of heavy metals, or of toxic and odor-producing substances in accordance with the levels of constituents and properties determined by the Board.

c. Storage facilities for materials which are hazardous to health and welfare, and for oils, gases, fuels, or other materials capable of causing water pollution if accidentally discharged, shall be located so as to minimize or prevent any spillage or leakage that might result in water pollution. Structures and devices to contain spillage, such as catchment areas, relief vessels, or entrapment dikes, should be installed at existing facilities, shall be installed at all new facilities, and shall be required following any discharge resulting in pollution.

11. Guidelines Regarding Range of Treatment

a. Secondary treatment is required on the Mississippi and Ohio Rivers. Secondary treatment resulting in effluents ranging from 20 to 40 mg/l five-day BOD and 25 to 45 mg/l suspended solids is acceptable on the Saline River. Tertiary or other advance treatment or modifications of conventional treatment will be specified for all intermittent streams and small or low flow streams.

b. Permissive Treatment and Effluent Requirements
Based on Average Strength Municipal Wastes

Type Treatment	BOD or ODI Reduction Percent	Effluent BOD or ODI mg/l	Effluent Suspended Solids mg/l	Type Facilities	Stream Dilution Requirements
Secondary	80	40	45	Biological	Mississippi
Secondary	85	30	35	Trickling Filter	Illinois and Des Plaines
Secondary	90	20	25	*Activated Sludge	2 to 1
	*(or trickling filter & supplemental treatment)				
Tertiary	98	10	13	Secondary plus Supplemental	1 to 1

Disinfection with up to 1 mg/l of chlorine residual in the effluent to reduce fecal coliform to 400 or less for primary contact waters.

Bypass flows in excess of waste treatment works capacity shall be given primary treatment, and chlorination if necessary, in auxiliary facilities.

c. Within design limitations, operation shall be of such quality to obtain the best possible degree of treatment from all treatment works. Every effort must be made to eliminate all system bypasses and overflows; otherwise measures must be taken to provide treatment units such as lagoons, detention or holding basins, and chlorination. Installation of new combined sewers are prohibited. Existing combined sewer systems

should be patrolled; overflow regulating devices shall be adjusted to convey the maximum practicable amount of combined flow to treatment facilities. Excess infiltration into the sewer system should be eliminated to keep dry weather flow within design limits of conduits and treatment works.

12. The Board will follow Typical Project Completion Schedules listed below:

    a. Chlorination Facilities

        1) Completion of plans and specifications - 12 months before completion date.

        2) Award of construction contracts - 6 months before completion date.

    b. Treatment Works - Municipalities less than 10,000 Population and Industries

        1) Completion of plans and specifications - 18 months before completion date.

        2) Award of construction contracts - 12 months before completion date.

    c. Treatment Works - Municipalities above 10,000 Population

        1) Completion of plans and specifications - 30-33 months before completion date.

        2) Award of construction contracts - 21-24 months before completion date.

13. If it appears at any time prior to the above dates that there will not be compliance with the timetables, the Board will hold administrative hearings and issue orders to submit a schedule for abatement of pollution with a minimum time for completion of waste treatment facilities. When a waste producer fails to comply with an order, the Board will initiate legal action through the Attorney General for enforcement of the order in the appropriate Court.

14. The Board will require and has scheduled construction of municipal treatment works improvements in accordance with the timetable, page 10.

15. All industries with effluent discharge will be required to construct additional or improved treatment works in accordance with the timetable, page 11.

STATUS OF MUNICIPAL TREATMENT FACILITIES
TRIBUTARY TO MISSISSIPPI RIVER

Municipality Sanitary District	1960 Pop.	Receiving Stream	Type Sewer System Treat. & Design P.E.	Date Built	Additional Requirements	Approved Schedule for Start Construction
Albany	637	Mississippi	Sep. Sewer, Secon.-750	1962	None	
Dallas City	1,276	Mississippi	Sep. Sewer No Treatment		Secondary	January, 1968
E. Dubuque	2,082	Mississippi	Comb. & Sep. Sewer Primary-3000	1956	Secondary	December, 1978
E. Moline (& Waterman)	16,732	Mississippi	Comb. & Sep. Sewer Primary-25,000	1960	Secondary Chlorination	December, 1976 January, 1968
Fulton	3,389	Mississippi	Comb. & Sep. Sewer Primary-4500	1962	Secondary	December, 1978
Hamilton	2,228	Mississippi	Comb. & Sep. Sewer Primary-1450	1949	Secondary Expansion	December, 1978 July, 1970
Moline (N. Plant)	34,100	Mississippi	Comb. & Sep. Sewer Primary-57,400 & Cl_2	1967	Secondary Operate Cl_2	December, 1976 April, 1968
Nauvoo	1,039	Mississippi	Comb. & Sep. Sewer No Treatment		Secondary Primary & Coliform Red.	December, 1978 January, 1968
Port Byron	1,153	Mississippi	Sep. Sewer Secondary-1600	1964	None	
Rock Island	51,863	Mississippi	Comb. & Sep. Sewer Primary-62,500	1940	Coliform Red. Secondary	January, 1968 December, 1976
Savanna	4,950	Mississippi	Comb. & Sep. Sewer Primary-9260	1948	Secondary	December, 1977
Thompson	543	Mississippi	Sep. Sewer Secondary-560	1967	None	

STATUS OF INDUSTRIAL TREATMENT FACILITIES
TRIBUTARY TO MISSISSIPPI RIVER

Entity	Type of Waste	Treatment Provided	Additional Requirement	Approved Schedule for Starting Construction
Apple River Chemical Co.	Fertilizer Mfg.	In Plant & Lagoons	None	
C. R. I. & P. R.R.	Oil	In Plant & Separators	Improvements	January, 1968
Deere & Company	Oil	In Plant & Separators	None	
Electro Coatings	Metals	In Plant & Reduction Equipment	None	
Farmall Works International Harvester	Oil	In Plant & Separators	Improvements	January, 1968
Nitrin, Inc.	Fertilizer Mfg.	In Plant & Closed Circuit	Improvements	January, 1968
Natural Gas Petro Chemical	Dry Ice	In Plant	None	
Quad City Nuclear Power	Electricity	In Plant	None	

ARTICLE II

Rule 2.01 These Rules and Regulations, Rule 1.01 through Rule 1.06, were adopted by the Sanitary Water Board March 7, 1967.

Rule 2.02 The Implementation and Enforcement Plan, Rule 1.07 and the corrections to Rule 1.01 through 1.06, are hereby adopted August 6, 1968.

Rule 2.03 These Rules and Regulations designated as SWB-12, Interstate Waters - Mississippi, Common Boundary between Illinois and Iowa, shall be in full force and effect on or after September 1, 1968.

Franklin D. Yoder, M.D., M.P.H.
Chairman, Sanitary Water Board
State of Illinois

Attest:

Clarence W. Klassen, Technical Secretary
Sanitary Water Board, State of Illinois

Dated: August 6, 1968

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ILLINOIS SANITARY WATER BOARD

Rules and Regulations SWB-13

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UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

WATER QUALITY STANDARDS

Interstate Waters
Mississippi River Between
Illinois and Missouri

Criteria Adopted February 8, 1967
Implementation Plan Submitted September 1, 1967
Sanitary Water Board Reapproval August 6, 1968

TABLE OF CONTENTS

Illinois Sanitary Water Board
Rules and Regulations SWB-13
Mississippi River Between Illinois and Missouri

	Page
Authority and Statement of Policy	1
Introduction - Water Quality Criteria - Rule 1.01 - Zone 1	1
1. Purpose of Criteria	1
2. Laboratory Control Standard Methods	1
Water Uses - Rule 1.02	2
General Criteria - 1.03	2
Specific Criteria - Rule 1.04	2
Stream Standards - Rule 1.05	2-4
Water Quality Criteria - Rule 2.01 - Zone 2	4
Water Uses - Rule 2.02	5
General Criteria - Rule 2.03	4
Specific Criteria - Rule 2.04	4
Stream Standards - Rule 2.05	5
Implementation and Enforcement Plan - Rule 3.01	7
1. Authority	7
2. Criteria Adopted SWB - 13	7
3. Minimum Flows	7
4. Temperature Change	7
5. Surveillance	7
6. Operator Certification, Reports and Inspection	7
7. Municipal Treatment Improvement	8
8. Industrial Treatment Improvement	8
9. Combined Sewers - Nutrients - Tertiary Treatment	8
10. Treatment Requirements and Effluent Criteria	8
a. Deoxygenating Waste	8
b. Basic Treatment	8
c. Hazardous Product Storage	9
11. Guidelines Range of Treatment	9
12. Typical Project Schedule	10
13. Enforcement Action	10
14. Schedule Municipal Treatment	10
Table	11 & 12
15. Schedule Industrial Treatment	10
Table	12
Effective Date: Rule 4.01, 4.02, 4.03	13

RIVER SITE MAP

ILLINOIS SANITARY WATER BOARD

Rules and Regulations SWB-13

MISSISSIPPI RIVER INTERSTATE WATERS BETWEEN ILLINOIS AND MISSOURI

AUTHORITY

Pursuant to the authority contained in Sec. 6, Paragraphs (b) and (f) of "An Act to establish a Sanitary Water Board and to control, prevent, and abate pollution of the streams, lakes, ponds, and other surface and underground waters in the State" (approved and in force July 12, 1951, Par. 145.6, Ch. 19, Ill. Rev. Stat. 1965), the Sanitary Water Board adopts the following Rules and Regulations.

STATEMENT OF POLICY

In the above Act, it has been declared to be the public policy of this State to maintain reasonable standards of purity of the waters of the State consistent with their use for domestic and industrial water supplies, for the propagation of wildlife, fish and aquatic life, and for domestic, agricultural, industrial, recreational and other legitimate uses, including their use in the final distribution of the water-borne wastes of our economy. It has also been declared to be the public policy of this State to provide that no waste be discharged into any waters of the State without first being given the degree of treatment necessary to prevent the pollution of such waters.

WATER QUALITY CRITERIA

ARTICLE I

Rule 1.01. Zone 1

These criteria of water quality prescribe the qualities or properties of the waters of the State which are necessary for the designated public use or benefit, and which, if the limiting conditions given are exceeded, shall be considered indicative of a polluted condition subject to abatement.

These stream criteria shall be applicable to the portion of the Mississippi River which forms a common boundary between Illinois and Missouri designated as Zone 1, and to each Illinois tributary stream at its confluence with the main stream. Zone 1 extends from the Des Moines River downstream from Hamilton, Illinois, to the Alton Lock and Dam No. 26.

"Standard Methods for the examination of Water and Waste Water", Twelfth Edition, 1965, American Public Health Association, Inc. should be employed where applicable, but it is recognized that other approved methods may be required in applying some of the criteria. The Illinois Sanitary Water Board shall designate the alternate procedure in "Standard Methods", and approve any departure from these procedures, with the concurrence of the Federal Water Pollution Control Administration.

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Rule 1.02. WATER USES

The Mississippi River in this zone is or will be used for public and industrial water supply; for agricultural purposes; for commercial fishing; propagation of native fish species; recreation including fishing, and whole body contact and to receive municipal and industrial effluents as well as other reasonable uses.

Rule 1.03. GENERAL CRITERIA

All tributary streams and all municipal and industrial effluents shall not create conditions in the stream which will adversely affect the above stated water uses.

Rule 1.04. SPECIFIC CRITERIA

1. Flow

The criteria stipulated shall be met at all times regardless of flow unless an exception is granted by the State Water Pollution Control Agency.

2. Stream Sampling

Stream Sampling points shall be determined by the State Water Pollution Control Agencies involved.

Rule 1.05. STREAM STANDARDS

1. pH

The pH shall be between 6.5 and 8.5 in the stream. A pH value above 8.5 in the stream must not be due to effluent discharges.

2. Bacteria: As determined by multiple-tube fermentation or membrane filter procedures, and based on a minimum of not less than five samples taken over not more than a 30-day period, the fecal coliform content of primary contact recreation waters shall not exceed a geometric mean of 200/100 ml, nor shall more than 10% of total samples during any 30-day period exceed 400/100 ml.

(Primary contact recreation is intended to include activities in which there is prolonged and intimate contact with the water involving considerable risk of ingesting water.)

3. Dissolved Oxygen

The dissolved oxygen in the stream shall not be less than 5 mg/l at any time due to effluent discharges.

4. Temperature

Effluent discharges shall not elevate the temperature of the stream above 90 degrees Fahrenheit.

5. Substances Potentially Toxic or Detrimental

Substances toxic to humans, fish and wildlife or detrimental to agricultural, mining, industrial, recreational, navigational, or other legitimate uses shall be limited to non-toxic or non-detrimental concentrations in the stream.

6. Taste and Odor Producing Substances

Taste and odor producing substances discharged shall be limited to concentrations in the stream that will not interfere with the production of potable water by reasonable water treatment processes or impart unpalatable flavor to food fish, or result in noticeable offensive odors in the vicinity of the water, or otherwise interfere with the reasonable use of the water.

7. Turbidity

There shall be no turbidity of other than natural origin that will cause substantial visible contrast with the natural appearance of or interfere with any legitimate uses of the stream.

8. Color

There shall be no color due to effluent discharges, that will cause substantial visible contrast with the natural appearance of or interfere with any legitimate use of the stream.

9. Oil

The stream shall be virtually free of oil and grease.

10. Solids

a. There shall be no noticeable man made deposits of solids either organic or inorganic in nature on the stream bed.

b. The stream shall be free from floating debris, scum and other floating materials attributable to municipal, industrial or other waste disposal practices in amounts sufficient to be unsightly or deleterious.

11. Radioactive Materials

Radium 226 and strontium 90 shall not exceed 3 and 10 pico-curies/liter respectively in the stream. In the absence of strontium 90 and alpha emitters, the gross beta concentration shall not exceed 1000 pico-curies/liter.

12. Fluorides

The soluble fluoride concentration in the river shall not exceed 1.2 mg/l.

ARTICLE II

Rule 2.01. WATER QUALITY CRITERIA - Zone 2

These stream criteria shall be applicable to the portion of the Mississippi River which forms a common boundary between Illinois and Missouri designated as Zone 2, and to each Illinois tributary stream at its confluence with the main stream. Zone 2 extends from the Alton Lock and Dam No. 26 to the Ohio River at Cairo, Illinois.

The method of sample collection, sample preservation, the analyses and measurements to determine water quality, and the accuracy of the results shall be in accordance with the Twelfth edition of "Standard Methods for the Examination of Water and Wastewater" or methods mutually agreed upon by the State Water Pollution Control Agencies.

Rule 2.02. WATER USES

The Mississippi River in this zone is presently and in the future will be used for public and industrial water supply; commercial fishing; navigation and to receive municipal and industrial effluents as well as other reasonable uses.

Rule 2.03. GENERAL CRITERIA

All tributary streams and all municipal and industrial effluents shall not create conditions in the stream which will adversely affect the above stated water uses.

Rule 2.04. SPECIFIC CRITERIA

1. Flow

The criteria stipulated shall be met at all times regardless of flow unless an exception is granted by the State Water Pollution Control Agency.

2. Stream Sampling

Stream sampling points shall be determined by the State Water Pollution Control Agencies involved.

Rule 2.05. STREAM STANDARDS

1. pH
The pH shall be between 6.5 and 8.5 in the stream.

2. Dissolved Oxygen

The dissolved oxygen in the stream shall not be less than 5 mg/l at any time due to effluent discharges.

3. Temperature

Effluent discharges shall not elevate the temperature of the stream above 90 degrees Fahrenheit.

4. Substances Potentially Toxic or Detrimental

Substances toxic to humans, fish and wildlife or detrimental to agricultural, mining, industrial, recreational, navigational, or other legitimate uses shall be limited to non-toxic or non-detrimental concentrations in the stream.

5. Taste and Odor Producing Substances

Taste and odor producing substances discharged shall be limited to concentrations in the stream that will not interfere with the production of potable water by reasonable water treatment processes or impart unpalatable flavor to food fish, or result in noticeable offensive odors in the vicinity of the water, or otherwise interfere with the reasonable use of the water.

6. Color

There shall be no color that will cause substantial visible contrast with the natural appearance of the water.

7. Oil

The stream shall be virtually free of oil and grease.

8. Solids

a. There shall be no man made deposits of organic solids on the stream bed.

b. The stream shall be free from floating debris, scum and other floating materials attributable to municipal, industrial, or other waste disposal practices in amounts sufficient to be unsightly or deleterious.

9. Fluorides

The soluble fluoride concentration in the river shall not exceed 1.2 mg/1.

10. Radioactive Materials

The radium 226 and strontium 90 shall not exceed 3 and 10 uuc/liter respectively in the stream. In the absence of strontium 90 and alpha emitters, the gross beta concentration shall not exceed 1000 uuc/liter in the stream.

11. Bacteria: The fecal coliform content of secondary contact recreation waters, as determined by either multiple-tube fermentation or membrane filter techniques, shall not exceed a geometric mean of 1,000/100 ml, nor shall they equal or exceed 2,000/100 ml in more than 10% of the samples.

(This criterion is intended to provide for water uses customarily described as "secondary contact uses", including boating, fishing, and limited contact with water incident to shoreline activities, in which contact with the water is either incidental or accidental and the probability of ingesting appreciable quantities of water is minimal.)

Rule 3.01 IMPLEMENTATION AND ENFORCEMENT PLAN

1. The Illinois Sanitary Water Board, under the 1951 Sanitary Water Board Act as amended (Ch. 19, Par. 145.1 - 145.18, IRS 1965), has the responsibility to control and prevent pollution in the waters of this State exclusive of the area embraced by Metropolitan Sanitary District of Greater Chicago. Authority to adopt and enforce water quality standards within the Metropolitan Sanitary District is contained in the recently adopted HB 1177, 75th General Assembly.

2. The Board adopted the criteria, Rules and Regulations SWB-13, February 8, 1967, as standards of water quality for the waters of the Mississippi River where it is a common boundary between Illinois and Missouri. All waters will be required to meet the standards for the appropriate public and industrial water supply, aquatic life, recreational and agricultural uses. Compliance with these standards will enhance the quality of waters within these streams.

   Waters whose existing quality is better than the established standards as of the date which such standards become effective will be maintained in their present high quality within the powers granted by the "Illinois" water pollution control statutes. Such waters will not be lowered in quality unless and until it has been affirmatively demonstrated to the Federal Water Pollution Control Administration that such change is justifiable as a result of necessary economic or social development and will not interfere with or become injurious to, any appropriate beneficial uses made of, or presently possible in, such waters.

3. The minimum weekly flow, which occurs once in 10 years, will be used in applying the standards. The Board plans to require compliance with the bacteriological standards for recreation during the recreational season of May through September inclusive. It is recognized that there are uncontrollable sources of bacterial pollution other than that of sewage treatment plant effluents.

4. Drastic or sudden temperature changes will not be permitted. The Board will insist upon controlled changes in temperature not to exceed 2 degrees Fahrenheit per hour, nor more than a 5 degree cumulative change from natural water temperature.

5. The Board collects samples bimonthly from various locations on streams in the Mississippi River Basin. Monthly samples are collected from most of the Mississippi River stations and from one, the East St. Louis Water Co., as part of the Federal Water Quality network. Additional stations are being added as needed.

6. Rules and Regulations, SWB-2, require the certification of waste treatment plant operators. The prompt and regular submission of monthly operational reports is required to enable evaluation of effluent quality. Certification and record of operation report submissions are recorded in a computer system to facilitate periodic data processing. The frequency of inspections of wastewater treatment plants by representatives of the Board have been increased and will be increased more to insure compliance with the standards.

7. All municipalities on the Mississippi River with sewage treatment facilities must provide a minimum of secondary treatment when existing primary facilities approach design capacity or obsolescence or by the end of 1982. Where a significant bacterial increase can be identified with a controllable waste discharge, chlorination or other control procedures to reduce the bacterial concentration is required.

8. All industries will be required to provide a degree of treatment or control that is equivalent to that required of municipalities. In some instances supplemental or advanced waste treatment in excess of secondary treatment may be necessary.

9. It is the plan of the Board that, where needed, the control of pollution caused by combined sewer overflow or storm flow bypassing at sewage treatment works be provided at the time of improvement or expansion of treatment works. The separation of combined sewers or special treatment works in some instances, the reduction of nutrients and provision of tertiary treatment should be accomplished, where deemed necessary, within the next ten years, or as practical technical methods are developed.

10. Treatment Requirements and Effluent Criteria

In order to establish a basis for treatment works design, municipal and industry representatives and consultants frequently inquire regarding the limits or effluent standards that must be met. The adoption of stream water quality criteria as required by the Federal Water Quality Act of 1965 (PL 89-234 amendments to PL 84-660; 33 U.S.C. 466) emphasizes the need to relate stream quality to effluent quality and treatment requirements. The expressed goals established by this Act are to protect and upgrade water quality; any wastes amenable to treatment or control must receive the best practicable treatment or control prior to discharge into any interstate water. The same goals have been, and continue to be, basic under the Sanitary Water Board Act for all waters of Illinois. Both the Federal Law and the Illinois Act prohibit the use of any stream or portion thereof for the sole or principal purpose of transporting wastes

a. All municipal or industrial facilities for treatment of deoxygenating waste shall provide at least secondary biological treatment, or advanced waste treatment, adequate to reduce the organic pollution load of the treatment works effluent at the final treatment structure in accordance with effluent guidelines in paragraph 11, below. A final treatment structure is considered the last point of access before discharge to waters of the State. Effluents shall meet all criteria expressed in Item b below.

b. All facilities for the treatment of sewage, industrial wastes, or other wastes shall provide for the following:

1) Substantially complete removal of settleable solids.

2) Removal of all floating debris, oil, grease, scum, or sludge solids.

3) Removal of color, odor, or turbidity to below obvious levels.

4) Removal of heavy metals, or of toxic and odor-producing substances in accordance with the levels of constituents and properties determined by the Board.

c. Storage facilities for materials which are hazardous to health and welfare, and for oils, gases, fuels, or other materials capable of causing water pollution if accidentally discharged, shall be located so as to minimize or prevent any spillage or leakage that might result in water pollution. Structures and devices to contain spillage, such as catchment areas, relief vessels, or entrapment-dikes, should be installed at existing facilities, shall be installed at all new facilities, and shall be required following any discharge resulting in pollution.

Guidelines Regarding Range of Treatment

a. Secondary treatment is required on the Mississippi and Ohio Rivers. Secondary treatment resulting in effluents ranging from 20 to 40 mg/1 five day BOD and 25 to 45 mg/1 suspended solids is acceptable on the Saline River. Tertiary or other advance treatment or modifications of conventional treatment will be specified for all intermittent streams and small or low flow streams.

b. Permissive Treatment & Effluent Requirements

Based on Average Strength Municipal Wastes

Type Treatment	BOD or ODI Reduction Per Cent	Effluent BOD or ODI mg/1	Effluent Suspended Solids mg/1	Type Facilities	Stream Dilution Requirements
Secondary	80	40	45	Biological	Mississippi
Secondary	85	30	35	Trickling Filter	Illinois and Des Plaines
Secondary	90	20	25	*Activated Sludge	2 to 1

* (or trickling filter & supplemental treatment)

Tertiary	98	10	13	Secondary plus Supplemental	1 to 1

Disinfection with up to 1 mg/1 of chlorine residual in the effluent to reduce Coliform to 5,000 or less, where necessary, fecal coliform to 400 or less for primary contact waters or to 2,000 or less for secondary contact waters.

Bypass flows in excess of waste treatment works capacity shall be given primary treatment, and chlorination if necessary, in auxiliary facilities.

c. Within design limitations, operation shall be of such quality to obtain the best possible degree of treatment from all treatment works. Every effort must be made to eliminate all system bypasses and overflows, otherwise measures must be taken to provide treatment units such as lagoons, detention or holding basins, and chlorination. Installations of new combined sewers are prohibited. Existing combined sewer systems should be patrolled; overflow regulating devices shall be adjusted to convey the maximum practicable amount of combined flow to treatment facilities. Excess infiltration into the sewer system should be eliminated to keep dry weather flow within design limits of conduits and treatment works.

12. The Board will follow Typical Project Completion Schedules listed below:

a. Chlorination Facilities

1) Completion of plans and specifications - 12 months before completion date.

2) Award of construction contracts - 6 months before completion date.

b. Treatment Works - Municipalities less than 10,000 Population and Industries

1) Completion of plans and specifications - 18 months before completion date.

2) Award of construction contracts - 12 months before completion date.

c. Treatment Works - Municipalities above 10,000 Population

1) Completion of plans and specifications - 30-33 months before completion date.

2) Award of construction contracts - 21-24 months before completion date.

13. If it appears at any time prior to the above date that there will not be compliance with the timetables, the Board will hold administrative hearings and issue orders to submit schedule for abatement of pollution with a minimum time for completion of waste treatment facilities. When a waste producer fails to comply with an order, the Board will initiate legal action through the Attorney General for enforcement of the order in the appropriate Court.

14. The Board will require and has scheduled construction of municipal treatment works improvements in accordance with the timetable, page 11 and 12.

15. All industries with effluent discharge will be required to construct additional or improved treatment works in accordance with the timetable, page 12.

Editor's Note: Effective Date and Sanitary Water Board Certification on Page 13.

TRIBUTARY TO MISSISSIPPI RIVER

Municipality Sanitary District	1960 Population	Receiving Stream	Type of Sewer System Treat. & Design P.E.	Date Built	Additional Requirements	Approved Schedule for Completion of Construction
Alton	43,047	Mississippi	Comb. & Sep. Sewers Primary - 60,000	1964	Secondary	December, 1982
Chester & State Prison	12,460	Mississippi	Comb. & Sep. Sewers Primary - 16,000	1963	Secondary	December, 1982
Columbia	3,174	Mississippi	Comb. & Sep. Sewers Secondary - 6,000	1961	Secondary	
Dupo	2,937	Mississippi	Comb. & Sep. Sewers Primary - 3,500	1961	Secondary	December, 1982
East Alton	7,630	Mississippi	Comb. & Sep. Sewers Primary - 10,500	1965	Secondary	December, 1982
East St. Louis	81,712	Mississippi	Comb. & Sep. Sewers Primary - 242,000	1967	Secondary	December, 1982
East Side Levee & Sanitary District						
-Cahokia	15,829	Mississippi	Sep. Sewers-Pri.-75,000	1965	Secondary	December, 1982
-Lansdowne	35,000	Mississippi	Comb. & Sep. Sewers Primary-58,000	1967	Secondary	December, 1982
Ft. Defiance Pk.		Mississippi	Primary - 200	1961	None	
Godfrey (Youngblood)	15,000	Mississippi	Primary - Sep. Sewers	62-68	Secondary	December, 1982
Grafton	1,084	Mississippi	Primary - Comb. Sewers	1939	Secondary	December, 1982
Granite City	40,073	Mississippi	Comb. & Sep. Sewers Primary - 200,000	1966	Secondary	December, 1982
Hartford	2,355	Mississippi	Comb. & Sep. Sewers Primary - 3,000	1959	Secondary	December, 1982
Quincy	44,693	Mississippi	Comb. & Sep. Sewers Primary - 50,000	1941	Secondary	December, 1982

Municipality Sanitary District	1960 Population	Receiving Stream	Type of Sewer System Treat. & Design P.E.	Date Built	Additional Requirements	Approved Schedule for Completion of Construction
Roxana	2,090	Mississippi	Comb. & Sep. Sewers Primary - 2,500	1961	Secondary	December, 1982
Sauget (Monsanto)	324	Mississippi	Comb. & Sep. Sewers Primary - 320,000	1967	Secondary	December, 1982
Warsaw	1,938	Mississippi	Comb. & Sep. Sewers Secondary - 2,420	1966	None	
Wood River	11,694	Mississippi	Comb. & Sep. Sewers Primary - 16,000	1962	Secondary	December, 1982

STATUS OF INDUSTRIAL TREATMENT FACILITIES
TRIBUTARY TO MISSISSIPPI RIVER

Entity	Type of Waste	Treatment Provided	Additional Requirement	Approved Schedule for Construction
Alton Box Board Co.	Paper	In Plant & Settling Tank	Secondary	December, 1982
American Oil Co.	Oil	In Plant & Secondary	Improvements	December, 1969
National Marine Barge Cleaning	Oil	In Plant & Separator	Improvements Secondary	December, 1969 December, 1982
Olin	Metal & Explosives	In Plant & Secondary	Additions	Phases under construction complete October, 1971.
Shell Oil Co.	Oil	In Plant & Secondary	Improvements	December, 1969
Clark Oil Co.	Oil	In Plant & Secondary	Improvements	December, 1969
Swift & Co.	Meat Packing	In Plant & Intermediate	Secondary	December, 1982
Union Tank Car	Oil & Chemical	In Plant & Settling Basin	Improvements	December, 1968

ARTICLE II

Rule 4.01 These rules and regulations Rule 1.01 through Rule 2.05 were adopted by the Sanitary Water Board February 8, 1967.

Rule 4.02 The Implementation and Enforcement Plan, Rule 3.01 and the corrections to Rule 1.01 through 2.05 are hereby adopted August 6, 1968.

Rule 4.03 These rules and regulations designated as SWB-10, Interstate Waters-Mississippi River between Illinois and Missouri, shall be in full force and effect on or after September 1, 1968.

Franklin D. Yoder, M.D., M.P.H.
Chairman, Sanitary Water Board
State of Illinois

Attest:

Clarence W. Klassen, Technical Secretary
Sanitary Water Board, State of Illinois

Dated: August 6, 1968

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ILLINOIS SANITARY WATER BOARD

Rules and Regulations SWB-14

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WATER QUALITY STANDARDS

Intrastate Waters
Exclusive of Interstate Waters

Water Quality Criteria - March 7, 1967
Effluent Criteria April 1, 1967
Implementation Plan Approved by SWB, March 5, 1967

TABLE OF CONTENTS

Illinois Sanitary Water Board
Rules and Regulations SWB-14
Intrastate Waters Exclusive of Interstate Waters

	Page
Authority and Statement of Policy	1
Introduction - Water Quality Criteria - Rule 1.01	1
1. Purpose of Criteria	1
2. Laboratory Control Standard Methods	1
Stream Sectors and Uses - Rule 1.02	2
Minimum Criteria - Rule 1.03	2
Stream Criteria - For Public Water Supply - Rule 1.04	2
Stream Criteria - For Aquatic Sectors - Rule 1.05	3
Stream Criteria - For Recreation Sector - Rule 1.06	4
Stream Criteria - For Industrial Water Supply Sector - Rule 1.07	4
Implementation and Enforcement Plan - Rule 1.08	5
1. Authority	5
2. Criteria adopted SWB-14	5
3. Minimum Flows	5
4. Temperature Change	5
5. Surveillance	5
6. Operator Certification, reports and inspections	5
7. Municipal Treatment Improvement	5
8. Industrial Treatment Improvement	5
9. Combined Sewers - nutrients - tertiary treatment	6
10. Treatment Requirements and Effluent Criteria	6
a. Deoxygenating Waste	6
b. Basic treatment	6
c. Hazardous Product Storage	6
11. Guidelines Range of Treatment	6
12. Typical Project Schedule	7
13. Enforcement Action	8
14. Schedule Municipal Treatment	8
15. Schedule Industrial Treatment	8
Effective Dates - Rule 2.01, 2.02, 2.03	8

RIVER SITE MAP

ILLINOIS SANITARY WATER BOARD

Rules and Regulations SWB-14

Intrastate Waters, Exclusive of Interstate Waters

AUTHORITY

Pursuant to the authority contained in Sec. 6, Paragraphs (b) and (f) of "An Act to establish a Sanitary Water Board and to control, prevent, and abate pollution of the streams, lakes, ponds, and other surface and underground waters in the State" (approved and in force July 12, 1951, Par. 145.6, Ch. 19, Ill. Rev. Stat. 1965), the Sanitary Water Board adopts the following Rules and Regulations:

STATEMENT OF POLICY

In the above Act, it has been declared to be the public policy of this State to maintain reasonable standards of purity of the waters of the State consistent with their use for domestic and industrial water supplies, for the propagating of wildlife, fish and aquatic life, and for domestic, agricultural, industrial, recreational and other legitimate uses, including their use in the final distribution of the water-borne wastes of our economy. It has also been declared to be the public policy of this State to provide that no waste be discharged into any waters of the State without first being given the degree of treatment necessary to prevent the pollution of such waters.

ARTICLE I

Rule 1.01 WATER QUALITY CRITERIA

These criteria of water quality prescribe the qualities or properties of the waters of the State which are necessary for the designated public use or benefit and which, if the limiting conditions given are exceeded, shall be considered indicative of a polluted condition subject to abatement.

These water quality criteria shall be applicable to *all* waters which are not subject to the interstate water quality standards included in Rules and Regulations SWB-7 through 13 inclusive, *and SWB-15.*

"Standard Methods for the Examination of Water and Waste Water", Twelfth Edition, 1965, American Public Health Association, Inc. should be employed where applicable, but it is recognized that other approved methods may be required in judging some of the criteria. The Illinois Sanitary Water Board shall designate *the alternate procedure in "Standard Methods," and approve any departure from these procedures.*

Note: Interstate waters and quality criteria are as follows:

a) SWB-7 for Lake Michigan, Wolf Lake, Little Calumet River and Grand Calumet River.

b) SWB-8 applicable to the Illinois River main stream, the Des Plaines River downstream from the confluence with the Chicago Sanitary and Ship Canal, and each tributary at its confluence with the main stream.

c) SWB-9 applicable to the Wabash River main stream and to the following tributary streams crossing the Illinois-Indiana boundary: Clear Creek, Sugar Creek, Brouillettes Creek, Little Vermilion River, and Vermilion River.

Editor's Note: Changes to agree with Interstate amendments requested by U.S. Department of Interior are *italicized.*

Revised March 5, 1968

Note: Interstate waters and quality criteria continued.

d) SWB-10 applicable to the Ohio River main stream.

e) SWB-11 applicable to the following interstate streams: The Sinsinawa River and Galena River tributary to the Mississippi River; The Pecatonica River, Richland Creek and Sugar Creek tributary to the Rock River; The Rock River; The North Branch Nippersink Creek and Nippersink Creek from the North Branch to the Fox River; The Fox River; North Mill Creek and Mill Creek from North Mill Creek to the Des Plaines River; The Des Plaines River from the Wisconsin Border to the confluence with the Chicago Sanitary and Ship Canal; The Kankakee River; The Iroquois River; and, Sugar Creek from the Indiana Border to the Iroquois River.

f) SWB-12 and 13 applicable to the Mississippi River.

g) *SWB-15 applicable to the Calumet Harbor and the Chicago River and Calumet River Systems.*

Rule 1.02 STREAM FLOWS

The average minimum weekly flow, which occurs once in ten years, will be used in applying these criteria, Rules 1.03 through 1.07 below. "An intermittent stream flows only in direct response to precipitation."

All stream sectors or water courses having zero minimum weekly flow once a year or more shall be considered intermittent stream sectors not suitable for sustaining fish and aquatic life or recreation. The criteria specified in Rules 1.03 and 1.07 shall apply during periods in which there is stream flow.

Rule 1.04 shall apply at all public water supply intakes on streams, lakes, impoundments or reservoirs.

Rule 1.03 MINIMUM CONDITIONS

These Minimum Criteria shall apply to all waters at all places and at all times in addition to specific criteria applicable to specific sectors.

a) Free from substances attributable to municipal, industrial or other discharges that will settle to form putrescent or otherwise objectionable sludge deposits; or which will form bottom deposits that may be detrimental to bottom biota (such as coal fines, limestone dust, fly ash, etc.)

b) Free from floating debris, oil, scum and other floating materials attributable to municipal, industrial or other discharges in amounts sufficient to be unsightly or deleterious;

Oils, grease and floating solids shall be reduced to a point such that they will not create fire hazards, coat hulls of watercraft, injure fish or wildlife or their habitat, or will adversely affect public or private recreational development or other legitimate shoreline developments or uses.

c) Free from materials attributable to municipal, industrial or other discharges producing color, odor or other conditions in such degree as to create a nuisance;

d) Free from substances attributable to municipal, industrial or other discharges in concentrations or combinations which are toxic or harmful to human, animal, plant or aquatic life.

Rule 1.04 FOR PUBLIC WATER SUPPLY *AND FOOD PROCESSING INDUSTRY*

The following criteria are for evaluation of surface water quality at the point at which water is withdrawn for treatment and distribution as a potable supply:

a) Bacteria: Coliform group not to exceed 5,000 per 100 ml as a monthly average value (either MPN or MF count); nor exceed this number in more than 20 per cent of the samples examined during any month; nor exceed 20,000 per 100 ml in more than five per cent of such samples.

b) Dissolved solids: Not to exceed 500 mg/1 as a monthly average value, nor exceed 750 mg/1 at any time. Values of specific conductance of 750 and 1025 micromhos/cm (at 25 deg. C.) may be considered equivalent to dissolved solid concentration of 500 to 750 mg/1.

c) Chemical Constituents: Not to exceed the following specific concentration at any time:

Stream Samples

Constituent	Concentration mg/1
Acidity (Total)	0.0
Ammonia Nitrogen (N)	2.5
*Arsenic	0.05
*Barium	1.0
*Cadmium	0.01
CCE (Carbon Chloroform Extract)	0.2
Chloride	150
*Chromium-Hexavalent (Chromate or dichromate)	0.05
*Chromium-Trivalent (Chromic or chromite)	1.00
*Copper	1.0
Cyanide	0.025
Fluoride	1.00
Iron (total)	0.3
*Lead	0.05
MBAS	0.5
Nitrate (as NO_3)	45
Oil	Substantially free of visible floating oil
pH	6.0 - 9.0
Phenols	.02
Phosphate	4.0
*Selenium	0.01
*Silver	0.05
Sulphate	200
Temperature	90°F
*Zinc	5.0

*Heavy Metals

d) Radio active substances: Gross beta activity in the known absence of Strontium 90 and alpha emitters not to exceed 1,000 pico curies per liter at any time. *"Absence of" is defined as not more than 10 pico curies of Strontium 90 and 3 pico curies of alpha radiation.*

Rule 1.05 FOR AQUATIC LIFE SECTORS

The following criteria are for evaluation of conditions for the maintenance of a well-balanced, warm-water fish population. They are applicable at any point in the stream except for areas immediately adjacent to outfalls. In such areas cognizance will be given to opportunities for the admixture of waste effluents with river water. The Sanitary Water Board may declare specific streams or head water sections of streams to be unsuitable for sustaining fish and aquatic life.

a) Dissolved oxygen: Not less than *5.0* mg/1 during at least 16 hours of any 24-hour period, nor less than *4.0* mg/1 at any time;

b) pH¾ No values below 6.0 nor above 9.0, and daily average (or median) values preferable between 6.5 and 8.5.

c) Temperature: Not to exceed 90 deg. F. at any time during the months of *April* through November, and not to exceed *60* deg. F. at any time during the months of December *to* April.

d) Toxic substances: Not to exceed one-tenth of the 48-hour median tolerance limit, for fish, except that other limiting concentrations may be used in specific cases when justified on the basis of available evidence and approved by the appropriate regulatory agency.

Rule 1.06 FOR RECREATION SECTORS

The following criterion is for evaluation of conditions at any point in waters designated to be used for recreational purposes, including such water-contact activities as boating, and water skiing:

a) Bacteria: Coliform group not to exceed 5,000 per 100 ml as a monthly average value (either MPN or MF count); nor exceed this number in more than 20 percent of the samples examined during any month; nor exceed 20,000 per 100 ml in more than five percent of such samples.

b) Bacteria: The fecal coliform content of secondary contact recreation waters, as determined by either multiple-tube fermentation or membrane filter techniques, shall not exceed a geometric mean of 1,000/100 ml, nor shall they equal or exceed 2,000/100 ml in more than 10% of the samples.

(This criterion is intended to provide for water uses customarily described as "secondary contact uses", including boating, fishing, and limited contact with water incident to shoreline activities; in which contact with the water is either incidental or accidental and the probability of ingesting appreciable quantities of water is minimal.)

c) Bacteria: As determined by multiple-tube fermentation or membrane filter procedures, and based on a minimum of not less than five samples taken over not more than a a 30-day period, the fecal coliform content of primary contact recreation waters shall not exceed a geometric mean of 200/100 ml, nor shall more than 10% of total samples during any 30-day period exceed 400/100 ml.

(Primary contact recreation is intended to include activities in which there is prolonged and intimate contact with the water involving considerable risk of ingesting water.)

Rule 1.07 FOR AGRICULTURE OR STOCK WATERING

The following criterion is for the evaluation of stream quality at the point at which water is withdrawn for use for agriculture or stock watering purposes:

1. Free from substances attributable to municipal, industrial or other discharges that will settle to form putrescent or otherwise objectionable sludge deposits;

2. Free from floating debris, oil, scum and other floating materials attributable to municipal, industrial or other discharges in amounts sufficient to be unsightly or deleterious;

3. Free from materials attributable to municipal, industrial or other discharges producing color, odor or other conditions in such degree as to create a nuisance;

4. Free from substances attributable to municipal, industrial or other discharges in concentrations or combinations which are toxic or harmful to human, animal, plant or aquatic life.

Rule 1.08 *IMPLEMENTATION AND ENFORCEMENT PLAN*

1. The Illinois Sanitary Water Board, under the 1951 Sanitary Water Board Act as amended (Ch. 19, Par. 145.1 - 145.18, IRS 1965), has the responsibility to control and prevent pollution in the waters of this State exclusive of the area embraced by Metropolitan Sanitary District of Greater Chicago. Authority to adopt and enforce water quality standards within the Metropolitan Sanitary District is contained in the recently adopted HB 1177, 75th General Assembly.

2. The Board adopted the criteria, Rules and Regulations SWB-14, February 8, 1967 as standards of water quality for the intrastate waters of Illinois exclusive of Interstate Waters *and shall be applicable to all waters which are not subject to the interstate water quality standards included in Rules and Regulations SWB-7 through 13 inclusive and SWB-15.* All waters will be required to meet the standards for the appropriate public and industrial water supply, aquatic life, recreational and agricultural uses. *Compliance with these standards will enhance the quality of waters within these streams.*

   Waters whose existing quality is better than the established standards as of the date which such standards become effective will be maintained in their present high quality within the powers granted by the "Illinois" water pollution control statutes

3. *The minimum weekly flow, which occurs once in 10 years, will be used in applying the standards.* The Board plans to require compliance with the bacteriological standards for recreation during the recreational season of April through October inclusive. It is recognized that there are uncontrollable sources of bacterial pollution other than that of sewage treatment plant effluents.

4. *Drastic or sudden temperature changes will not be permitted. The Board will insist upon controlled changes in temperature not to exceed 2 deg. F. per hour, nor more than a 5 deg. cumulative change from natural water temperature.*

5. The Board collects samples bimonthly from various locations on streams in these river basins. Additional stations are being added as needed and electronic stations are programmed as budgeting permits.

6. Rules and Regulations, SWB 2, require the certification of waste treatment plant operators. The prompt and regular submissions of monthly operational reports is required to enable evaluation of effluent quality. Certification and record of operation report submissions are recorded in a computer system to facilitate periodic data processing. The frequency of inspections of wastewater treatment plants by representatives of the Board have been increased and will be increased more to insure compliance with the standards.

7. Adequate treatment, in accord with paragraphs 10 and 11 below, must be provided by all municipalities, *including disinfection of the effluent. Where necessary to improve water quality and to reduce algae growths supplemental treatment will be required to the fullest extent consistent with research and technological advances.* The reduction of nutrients contributed by treated sewage effluents, where necessary, should be accomplished within the next ten years, however, it is recognized that there are other uncontrollable sources of nutrients.

8. *All industries will be required to provide a degree of treatment or control that is equivalent to that required of municipalities.* In some instances supplemental or advanced waste treatment in excess of secondary treatment may be necessary.

9. It is the plan of the Board that, where needed, the control of pollution caused by combined sewer overflow or storm flow bypassing at sewage treatment works be provided at the time of improvement or expansion of treatment works. The separation of combined sewers or special treatment works in some instances, *the reduction of nutrients* and provision of tertiary treatment should be accomplished, where deemed necessary, within the next ten years, or *as practical technical methods are developed.*

10. Treatment Requirements and Effluent Criteria

In order to establish a basis for treatment works design, municipal and industry representatives and consultants frequently inquire regarding the limits or effluent standards that must be met. The adoption of stream water quality criteria as required by the Federal Water Quality Act of 1965 (PL 89-234 amendments to PL 84-660; 33 U.S.C. 466) emphasizes the need to relate stream quality to effluent quality and treatment requirements. The expressed goals established by this Act are to protect and upgrade water quality; any wastes amenable to treatment or control must receive the best practicalbe treatment or control prior to discharge into any interstate water. The same goals have been, and continue to be, basic under the Sanitary Water Board Act for all waters of Illinois. Both the Federal Law and the Illinois Act prohibit the use of any stream or portion thereof for the sole or principal purpose of transporting wastes.

a. All municipal or industrial facilities for treatment of deoxygenating waste shall provide at least secondary biological treatment, or advanced waste treatment, adequate to reduce the organic pollution load of the treatment works effluent at the final treatment structure in accordance with effluent guidelines in paragraph 11, below. A final treatment structure is considered the last point of access before discharge to waters of the State. Effluents shall meet all criteria expressed in Item b below.

b. All facilities for the treatment of sewage, industrial wastes, or other wastes shall provide for the following:

1) Substantially complete removal of settleable solids.

2) Removal of all floating debris, oil, grease, scum, or sludge solids.

3) Removal of color, odor, or turbidity to below obvious levels.

4) Removal of heavy metals, or of toxic and odor-producing substances in accordance with the levels of constituents and properties determined by the Board.

c. Storage facilities for materials which are hazardous to health and welfare, and for oils, gases, fuels, or other materials capable of causing water pollution if accidentally discharged, shall be located so as to minimize or prevent any spillage or leakage that might result in water pollution. Structures and devices to contain spillage, such as catchment areas, relief vessels, or entrapment dikes, should be installed at existing facilities, shall be installed at all new facilities, and shall be required following any discharge resulting in pollution.

11. *Guidelines Regarding Range of Treatment*

a. Secondary treatment resulting in effluents ranging from 20 to 40 mg/1 five-day BOD and 25 to 45 mg/1 suspended solids is acceptable on the Illinois River and lower Des Plaines River. Tertiary or other advance treatment or modifications of conventional treatment will be specified for all intermittent streams and small or low flow streams, and shall include effluent disinfection at least through the recreational season of April through October.

b. Permissive Treatment & Effluent Requirements
Based on Average Strength Municipal Wastes

Type Treatment	BOD or ODI Reduction Percent	Effluent BOD, ODI mg/1	Effluent Suspended Solids mg/1	Type Facilities	Stream Dilution Requirements
Secondary	85	30	35	Trickling Filter	Illinois and DesPlaines
Secondary	90	20	25	*Activated Sludge	2 to 1
*(or trickling filter & supplemental treatment)					
Tertiary	95	10	13	Secondary plus Supplemental	1 to 1
Advanced	98	4	5	Series Units	less than 1 to 1

Disinfection with up to 1 mg/1 of chlorine residual in the effluent to reduce Coliform to 5,000 or less, where necessary, *and reduce Fecal Coliform to 400 or less for primary contact waters or to 2,000 or less for secondary contact waters.*

Bypass flows in excess of waste treatment works capacity shall be given primary treatment, and chlorination if necessary, in auxiliary facilities.

c. Within design limitations, operation shall be of such quality to obtain the best possible degree of treatment from all treatment works. Every effort must be made to eliminate all system bypasses and overflows, otherwise measures must be taken to provide treatment units such as lagoons, detention or holding basins, and chlorination. Installation of new combined sewers are prohibited. Existing combined sewer systems should be patrolled; overflow regulating devices shall be adjusted to convey the maximum practicable amount of combined flow to treatment facilities. Excess infiltration into the sewer system should be eliminated to keep dry weather flow within design limits of conduits and treatment works.

12. *The Board will follow Typical Project Completion Schedules listed below:*

a. Chlorination Facilities

1) Completion of plans and specifications - 12 months before completion date.

2) Award of construction contracts - 6 months before completion date.

b. Treatment Works - Municipalities less than 10,000 Population and Industries

1) Completion of plans and specifications - 18 months before completion date.

2) Award of construction contracts - 12 months before completion date.

c. Treatment Works - Municipalities above 10,000 Population

1) Completion of plans and specifications - 30-33 months before completion date.

2) Award of construction contracts - 21-24 months before completion date.

13. If it appears at any time prior to the above dates that there will not be compliance with the timetables, the Board will hold administrative hearings and issue orders to submit schedule for abatement of pollution with a minimum time for completion of waste treatment facilities. When a waste producer fails to comply with an order, the Board will initiate legal action through the Attorney General for enforcement of the order in the appropriate Court.

14. The Board will require a schedule of construction of municipal treatment works improvements to *adequately meet these water quality standards by July 1972.* Where conditions indicate the need or it is specified by Technical Releases, disinfection of the effluent shall be requested with a specific time for completion. Interim facilities may be necessary pending sewage treatment works expansion or other improvements and the construction of permanent facilities.

15. All industries with effluent discharge will be required to construct additional or improved treatment works in accordance with the timetable *established by the Board subsequent to facility inspection and progress conferences.*

ARTICLE II

Rule 2.01 These rules and regulations, Rule 1.01 through Rule 1.07, were adopted by the Sanitary Water Board February 8, 1968.

Rule 2.02 The changes and amendments to Rule 1.01 through Rule 1.07 denoted in italics and the Implementation and Enforcement Plan, Rule 1.08, are hereby adopted March 5, 1968.

Rule 2.03 These rules and regulations designated as SWB-14, Intrastate Water, Exclusive of Interstate Waters shall be in full force and effect on and after April 1, 1968.

Franklin D. Yoder, M.D., M.P.H.
Chairman, Sanitary Water Board
State of Illinois

Attest:

Clarence W. Klassen
Technical Secretary
Sanitary Water Board

Dated: March 5, 1968

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ILLINOIS SANITARY WATER BOARD

Rules and Regulations SWB-15

WATER QUALITY STANDARDS

Interstate Waters,
Chicago River and Calumet River System
and Calumet Harbor Basin

Adopted by Board June 28, 1967

Approved by U. S. Department of Interior January 27, 1968

Sanitary Water Board reapproval March 5, 1968

TABLE OF CONTENTS

Illinois Sanitary Water Board
Rules and Regulations SWB-15
Chicago River and Calumet River Systems

	Page
Authority and Statement of Policy	1
Introduction - Water Quality Criteria	1
1. Calumet River System	1
2. Chicago River System	1
Stream Sectors and Uses	2
1. Chicago River	2
2. North Shore Channel	2
3. Calumet Harbor Basin	2
4. Calumet River	2
5. Little Calumet River	2
6. Calumet Sag Channel	2
7. North Branch Chicago River	2
8. South Branch Chicago River	3
9. South Fork South Branch Chicago River	3
10. Chicago Sanitary and Ship Canal	3
Stream Criteria - Primary Contact Recreation and Aquatic	3-5
Stream Criteria - Secondary Contact Recreation and Aquatic	5-6
Criteria - Calumet Harbor Basin	6-8
Related Water Quality Criteria (SWB 7, 11 and 14)	8
Lake Michigan, Wolf Lake, Grand Calumet, Little Calumet	8
DesPlaines River and Intrastate waters	8
Implementation and Enforcement Plan	9
1. Authority	9
2. Minimum Flows	9
3. Temperature Change	9
4. Surveillance	9
5. Municipal Treatment Improvement Schedule	9
6. Industrial Treatment Improvement Schedule	10
7. Typical Project Schedule	10
8. Enforcement Action	10
9. Combined Sewers - nutrients - tertiary treatment	10
10. Treatment Requirements and Effluent Criteria	11-13
a. Deoxygenating Waste	11
b. Basic treatment	11
c. Effluent characteristics	11-12
11. Storage Facilities	12
12. Guidelines Range of Treatment	12-13
Effective Date	13

RIVER SITE MAP

ILLINOIS SANITARY WATER BOARD

Rules and Regulations SWB-15

Interstate Waters,
Chicago River and Calumet River Systems

AUTHORITY

Pursuant to the authority contained in Sections 1, and 6 (b) and (c) of "An Act to establish a Sanitary Water Board and to control, prevent, and abate pollution of the streams, lakes, ponds, and other surface and underground waters in the State" approved and in force July 12, 1951, (Ch. 19, ¶ 145.1&.6, Ill. Rev. Stat. 1965), as amended by HB 1177, 75th GA, 1967, the Sanitary Water Board adopts the following Rules and Regulations:

STATEMENT OF POLICY

In the above Act it has been declared to be the public policy of this State to maintain reasonable standards of purity of the waters of the State consistent with their use for domestic and industrial water supplies, for the propagation of wildlife, fish and aquatic life, and for domestic, agricultural, industrial, recreational and other legitimate uses, including their use in the final distribution of the water-borne wastes of our economy. It has also been declared to be the public policy of this State to provide that no waste be discharged into any waters of the State without first being given the degree of treatment necessary to prevent the pollution of such waters.

WATER QUALITY CRITERIA

ARTICLE I

Rule 1.01. Introduction

These criteria of water quality prescribe the qualities or properties of the waters of the State which are necessary for the designated public use or benefit, and which, if the limiting conditions given are exceeded, shall be considered indicative of a polluted condition subject to abatement.

These water quality standards shall be applicable to the following interstate waters:

1. The Calumet River System. Calumet Harbor Basin -- Calumet River -- Little Calumet River -- Calumet Sag Channel.

2. The Chicago River System. North Shore Channel -- North Branch Chicago River -- Chicago River -- South Branch Chicago River -- Chicago Sanitary and Ship Canal to the confluence with the Des Plaines River near Lockport, Illinois.

"Standard Methods for the Examination of Water and Waste Water", Twelfth Edition, 1965, American Public Health Association, Inc. should be employed where applicable, but it is recognized that other approved methods may be required in applying some of the criteria. The Illinois Sanitary Water Board shall designate the alternate procedure in "Standard Methods", and approve any departure from these procedures, with the concurrence of the Federal Water Pollution Control Administration.

Rule 1.02. Stream Sectors and Uses

1. The Chicago River, from Lake Michigan to the confluence of the North Branch and the South Branch located west of the Franklin Street Bridge and north of the Lake Street Bridge, is the first segment of the Illinois Waterways System. It is now used and will continue to be used for commercial deep water vessel and barge shipping, for recreational use, for commercial passenger and sight-seeing boat service including marinas, and for the withdrawal of industrial cooling and process waters. These waters shall be improved to provide increased recreational use and to support fish and aquatic life. The water quality criteria included in Rule 1.03 shall apply.

2. The North Shore Channel, from Lake Michigan to the confluence with North Branch Chicago River (approximately 5100 North), and the North Branch Chicago River from the North Shore Channel to Addison Street (3600 North), are used for recreation and are receiving effluents from municipal waste treatment facilities. These waters shall be improved to provide increased recreational use and to support fish and aquatic life. The water quality criteria included in Rule 1.03 shall apply.

3. The Calumet Harbor Basin shoreward from the Breakwater and Indiana State Line, within the State of Illinois. It is now used and will continue to be used for public water supply, commercial shipping, withdrawal of industrial cooling and process water, recreation, fish and aquatic life. The water quality criteria included in Rule 1.05 shall apply.

4. The Calumet River, from Lake Michigan to the junction with the Grand Calumet River, and the Little Calumet River.

5. The Little Calumet River from the junction of the Grand Calumet River to the Calumet-Sag Channel, about 1200 W.

6. The Calumet-Sag Channel to its confluence with the Chicago Sanitary and Ship Canal west of Illinois Highway 83.

7. The North Branch Chicago River from Addison Street (3600 N.) to the junction with the Chicago River at a point west of Franklin Street Bridge.

8. The South Branch Chicago River, from the Chicago River, west of Franklin Street Bridge, to the Chicago Sanitary and Ship Canal at Damen Avenue (2000 W.).

9. The South Fork of the South Branch Chicago River from Pershing Road (39th St.) to the South Branch Chicago River.

10. The Chicago Sanitary and Ship Canal from Damen Avenue (2000 W.) to the Des Plaines River downstream from the Lock and Dam at Lockport.

Waters from Stream Sectors 4 through 10 are now used and will continue to be used for commercial vessel and barge shipping, for recreational boating transit, for withdrawal and return of industrial cooling and process water, and to receive effluents from industrial and domestic waste treatment facilities. These waters shall be improved to provide increased recreational use and to sustain fish and aquatic life.

The water quality criteria included in Rule 1.04 shall apply to waters of Sectors 4 through 10.

Rule 1.03. Stream Criteria

1. General Criteria

These General Criteria, in addition to specific criteria, shall apply to all waters at all places and at all times.

a. Free from substances attributable to municipal, industrial or other discharges that will settle to form putrescent or otherwise objectionable sludge deposits; or substances (coal fines, quarry fines, fly ash, limesludge, etc.) which will form bottom deposits that may be detrimental to bottom biota.

b. Free from floating debris, oil, scum and other floating materials attributable to municipal, industrial or other discharges in amounts sufficient to be unsightly or deleterious.

Oils, grease and floating solids shall be reduced to a level such that they will not create fire hazards, coat hulls of watercraft, injure fish or wildlife or their habitat, and will not adversely affect public or private recreational development or other legitimate shoreline developments or uses.

c. Free from materials attributable to municipal, industrial or other discharges producing color, odor or other conditions in such degree as to create a nuisance.

d. Free from substances attributable to municipal, industrial or other discharges in concentrations or combinations which are toxic or harmful to human, animal, or aquatic life.

2. Specific Criteria

These criteria are for evaluation of conditions at any point in the stream other than areas in proximity of outfalls. In such areas cognizance will be given to opportunities for the admixture of waste effluents with stream water.

a. Dissolved oxygen:

For maintenance of well-balanced fish habitats a dissolved oxygen content not less than 5.0 milligrams per liter (mg/l) during 16 hours of any 24-hour period, and not less than *4.0* mg/l at any time.

b. pH:

No value less than 6.0 or greater than 9.0 at any time, and preferably between 6.5 and 8.5. Samples shall be collected away from the influence of an outfall sewer. (More than 100 feet is suggested).

c. Temperature:

Not to exceed 90 degrees F. at any time during the months of *April* through November, and not to exceed *60* deg. F. at any time during the months of December to *April.*

d. Toxic Substances:

Not to exceed one-tenth of the 48-hour median tolerance limit for fish, except that other limiting concentrations may be used in specific cases. Concentrations of the chemical constituents listed below are the maximum for any time at any point in aquatic sectors of the basin, except for areas in proximity of outfalls:

Constituent	Concentration mg/l
Ammonia Nitrogen (N)	2.5
*Arsenic	1.0
*Barium	5.0
*Cadmium	0.05
*Chromium-Hexavalent	0.05
*Chromium-Trivalent	1.00
*Copper	0.04
Cyanide	0.025
Iron	1.00
*Lead	0.1
Phenols	0.2
*Silver	0.05
*Zinc	1.00

*Heavy Metals

Editors Note: Changes requested by U. S. Department of Interior are italicized.

e. Bacteria: As determined by multiple-tube fermentation or membrane filter procedures, and based on a minimum of not less than five samples taken over not more than a 30-day period, the fecal coliform content of primary contact recreation waters shall not exceed a geometric mean of 200/100 ml, nor shall more than 10% of total samples during any 30-day period exceed 400/100 ml.

(Primary contact recreation is intended to include activities in which there is prolonged and intimate contact with the water involving considerable risk of ingesting water.)

Rule 1.04. Stream Criteria

1. General Criteria

These General Criteria, in addition to specific criteria, shall apply to all waters at all places and at all times.

a. Free from substances attributable to municipal, industrial or other discharges that will settle to form putrescent or otherwise objectionable sludge deposits; or substances (coal fines, quarry fines, fly ash, limesludge, etc.) which will form bottom deposits that may be detrimental to bottom biota.

b. Free from floating debris, oil, scum and other floating materials attributable to municipal, industrial or other discharges in amounts sufficient to be unsightly or deleterious.

Oils, grease and floating solids shall be reduced to a level such that they will not create fire hazards, coat hulls of watercraft, injure fish or wildlife or their habitat, and will not adversely affect public or private recreational development or other legitimate shoreline developments or uses.

c. Free from materials attributable to municipal, industrial or other discharges producing color, odor or other conditions in such degree as to create a nuisance.

d. Free from substances attributable to municipal, industrial or other discharges in concentrations or combinations which are toxic or harmful to human, animal, or aquatic life.

2. Specific Criteria

These criteria are applicable to stream water at any point in the river, except for areas in proximity of outfalls. In such areas cognizance will be given to opportunities for the admixture of treated effluents with stream water:

a. Dissolved Oxygen: Not less than 3.0 mg/1 during 16 hours of any 24-hour period, and not less than 2.0 mg/1 at any time.

b. pH: Not less than 6.0 nor greater than 9.0 at any time.

c. Temperature: Not to exceed 93 deg. F. at any time.

d. Bacteria: The fecal coliform content of secondary contact recreation waters, as determined by either multiple-tube fermentation or membrane filter techniques, shall not exceed a geometric mean of 1,000/100 ml, nor shall they equal or exceed 2,000/100 ml in more than 10% of the samples.

(This criterion is intended to provide for water uses customarily described as "secondary contact uses", including boating, fishing, and limited contact with water incident to shoreline activities; in which contact with the water is either incidental or accidental and the probability of ingesting appreciable quantities of water is minimal.)

Rule 1.05. Calumet Harbor Basin Criteria

Control Points - Calumet Harbor Breakwater at State Line. This does not exclude sampling at such other points in the Harbor area as may be necessary to insure effective monitoring and pollution control.

Coliform Bacteria - MPN/100 ml.

Annual Average (Arithmetic)	Not more than 2,000
Single Daily Value or Average	Not more than 5,000 *

Fecal Streptococci - Number/100 ml	Not more than 100

Turbidity

No turbidity of other than natural origin that will cause substantial visible contrast with the natural appearance of water.

True Color - Units

Annual Average	Not more than 5
Single Daily Value or Average	Not more than 15

Threshold Odor (Hydrocarbon and/or Chemical) Units

Annual Average	Not more than 8
Single Daily Value or Average	Not more than 20

Odor

No obnoxious odor of other than natural origin.

Temperature - °F — Not more than 85

Oil

Substantially free of visible floating oil.

Floating Solids and Debris

Substantially free of floating solids and debris from other than natural sources.

Bottom Deposits

Substantially free of muck and debris of other than natural origin.

pH - Units

Annual Median	Within range 8.0 - 8.5
Daily Median	Within range 7.5 - 9.0

Dissolved Oxygen - Per Cent Saturation

Annual Average	Not less than 80
Single Daily Value or Average	Not less than 65

Ammonia Nitrogen - mg/l

Annual Average	0.05
Single Daily Value or Average	0.12

Methylene Blue Active Substance - mg/l

Annual Average	Not more than 0.10
Single Daily Value or Average	Not more than 0.30

Chlorides - mg/l

	1965	1970	1980	1990	2000
Annual Average	Not more than 16	18	20	22	24
Single Daily Value or Average	Not more than 30 (through 1970)				

Cyanides - mg/l

Single Value	Less than 0.1

Fluorides - mg/l

Annual Average	Not more than 1.0
Single Daily Value or Average	Not more than 1.3

Dissolved Iron - mg/l

Annual Average	Not more than 0.15
Single Daily Value or Average	Not more than 0.30

Phenol-like Substances - mg/l

Annual Average	Not more than 0.002
Single Daily Value or Average	Not more than 0.005

Sulfates - mg/l		1965	1970	1980	1990	2000
Annual Average	Not more than	35	36	39	42	45
Single Daily Value or Average	Not more than			75 (through 1970)		

Total Phosphates - mg/l

Annual Average	Not more than 0.05
Single Daily Value or Average	Not more than 0.10

Filterable Residue (Total Dissolved Solids) - mg/l		1965	1970	1980	1990	2000
Annual Average	Not more than	187	190	197	204	211
Single Daily Value or Average	Not more than			230 (through 1970)		

Miscellaneous Trace Contaminants and Radionuclides - Shall not be present in concentrations that will prevent meeting PHS 1962 Drinking Water Standards after conventional treatment.

* Except during periods of storm water runoff when coliform should not exceed 24,000/100 ml.

Rule 1.06. Related Water Quality Criteria

The Illinois Sanitary Water Board has adopted water quality criteria for Interstate Waters -- Lake Michigan-Calumet Area, Des Plaines River, and for Intrastate Waters as follows:

1. Rules and Regulations SWB-7, Lake Michigan, Wolf Lake, Grand Calumet River and the Little Calumet River from the Illinois-Indiana line to the Calumet-Sag Channel. Calumet Harbor Basin Criteria are contained in Rule 1.05, above.

2. Rules and Regulations SWB-11, Des Plaines River from the Wisconsin border to the confluence with the Chicago Sanitary and Ship Canal.

3. Rules and Regulations SWB-14, all intrastate waters exclusive of interstate waters.

Rule 1.07. Implementation and Enforcement Plan

1. The Illinois Sanitary Water Board, under the 1951 Sanitary Water Board Act as amended (Ch. 19, Par. 145.1 - 145.18, IRS 1965), has the responsibility to control and prevent pollution in the waters of this State exclusive of the area embraced by Metropolitan Sanitary District of Greater Chicago. Authority to adopt and enforce water quality standards within the Metropolitan Sanitary District is contained in the recently adopted HB 1177, 75th General Assembly.

2. The minimum weekly flow, which occurs once in 10 years, will be used in applying the standards. The Board plans to require compliance with the bacteriological standards for recreation during the recreational season of April through October inclusive. It is recognized that there are uncontrollable sources of bacterial pollution other than that of sewage treatment plant effluents.

3. Drastic or sudden temperature changes will not be permitted. The Board will insist upon controlled changes in temperature not to exceed 2 deg. F. per hour, nor more than a 5 deg. cumulative change from natural water temperature.*

4. The Board collects samples bimonthly from various locations on streams in the area, and will increase the frequency within budgetary and personnel limitations. Prompt submission of monthly operational reports will be required from treatment plants in order to evaluate effluent quality.

5. The Board will require construction of municipal treatment facilities in accordance with the following timetable:

   a. Effluent chlorination facilities are to be provided at the Lemont Plant, the Calumet Plant, and the North Side Plant by the end of 1968, and at the West-Southwest Plant by July 1972. The facilities are now under construction at Calumet Plant and planned for the North Side Plant. Interim facilities are under construction at the Lemont plant.

   b. Installation of advanced waste treatment at the North Side Plant, Calumet Plant, and West-Southwest Plant may be required within the next ten years. Phosphate removal will be required as soon as practicable methods are developed.

   c. The installation of sewers and sewage treatment facilities necessary to intercept and treat existing raw sewage discharges will be required within the next five years. Interception and treatment of storm overflow from combined sewers and from pump stations will be required within the next ten years.

*Change requested by USDI.

6. Industries with inadequate waste treatment facilities will be required to provide adequate treatment for the removal of contaminants by September 30, 1969, except those with direct discharge to Lake Michigan and subject to the Federal Conference, Illinois-Indiana, Lower Lake Michigan, March 2 - 9, 1965, et seq., and to SWB-7. *

(All industries will be required to provide a degree of treatment or control equivalent to that required of municipalities on the same reach of the stream, and in accord with paragraphs 10a, 10b, 10c, 12a, 12b and 12c. # Except in rare instances this will be the equivalent of secondary treatment. Exceptions must be justified to the satisfaction of the Illinois Sanitary Water Board and the Federal Water Pollution Control Administration.)

7. The Board will follow Typical Project Completion Schedules listed below:

   a. Chlorination Facilities

      1) Completion of plans and specifications - 12 months before completion date.

      2) Award of construction contracts - 6 months before completion date.

   b. Treatment Works - Municipalities less than 10,000 Population and Industries

      1) Completion of plans and specifications - 18 months before before completion date.

      2) Award of construction contracts - 12 months before completion date.

   c. Treatment Works - Municipalities above 10,000 Population

      1) Completion of plans and specifications - 30-33 months before completion date.

      2) Award of construction contracts - 21-24 months before completion date.

8. If it appears at any time prior to the above dates that there will not be compliance with the timetables, the Board will hold administrative hearings and issue orders to submit schedule for abatement of pollution with a minimum time for completion of waste treatment facilities. When a waste producer fails to comply with an order, the Board will initiate legal action through the Attorney General for enforcement of the order in the appropriate Court.

9. It is the plan of the Board that, where needed, the control of pollution caused by combined sewer overflows, the reduction of nutrients contributed by treated sewage effluents, and the providing of tertiary treatment, shall be accomplished within the next ten years.

* Change agreed to by USDI.
# Added reference information.

10. Treatment Requirements and Effluent Criteria

In order to establish a basis for treatment works design, municipal and industry representatives and consultants frequently inquire regarding the limits or effluent standards that must be met. The adoption of stream water quality criteria as required by the Federal Water Quality Act of 1965 (PL 89-234 amendments to PL *4-660: 33 U.S.C. 466) emphasizes the need to relate stream quality to effluent quality and treatment requirements. The expressed goals established by this Act are to protect and upgrade water quality; any wastes amenable to treatment or control must receive the best practicable treatment or control prior to discharge into any interstate water. The same goals have been, and continue to be, basic under the Sanitary Water Board Act for all waters of Illinois. Both the Federal Law and the Illinois Act prohibit the use of any stream or portion thereof for the sole or principal purpose of transporting wastes.

a. All municipal or industrial facilities for treatment of deoxygenating waste shall provide at least secondary biological treatment, or advanced waste treatment, adequate to reduce the organic pollution load of the treatment works effluent at the final treatment structure in accordance with effluent guidelines in paragraph 12, below. A final treatment structure is considered the last point of access before discharge to waters of the State. Effluents shall meet all criteria expressed in Item b below.

b. All facilities for the treatment of sewage, industrial wastes, or other wastes shall provide for the following:

   1) Substantially complete removal of settleable solids.

   2) Removal of all floating debris, oil, grease, scum, or sludge solids.

   3) Removal of color, odor, or turbidity to below obvious levels.

   4) Removal of heavy metals, or of toxic and odor-producing substances in accordance with the levels of constituents and properties listed in paragraph c below.

c. Effluents to waters of the State within the Metropolitan Sanitary District of Greater Chicago are not to exceed the following specific characteristics at any time; except that *Waters whose existing quality is better than the established standards as of the date which such standards become effective will be maintained in their present high quality within the powers granted by the "Illinois" water pollution control statutes. Such waters will not be lowered in quality unless and until it has been affirmatively demonstrated to the Federal Water Pollution Control Administration that such change is justifiable as a result of necessary economic or social development and will not interfere with or become injurious to, any appropriate beneficial uses made of, or presently possible in, such waters.*

Editors Note: See bottom of Page 4.

Constituent or Property	Concentration Milligrams per liter
Ammonia Nitrogen not to increase stream content above #	2.5
*Arsenic	1.0
*Barium	5.0
*Cadmium	0.05
*Chromium - Hexavalent (Chromate or dichromate)	0.05
*Chromium - Trivalent (Chromic or chromite)	1.0
*Copper	0.04
Cyanide - Reduced at least to cyanate and approach zero as CN	0.025
Iron (Total) - Free from color, floating or suspended iron	10.0
*Lead	0.1
Nickel	2.0
Nitrate Nitrogen	45.0
Oil - Substantially free from visible floating oil and not to exceed	15.0
pH (units)	6.0 - 10.0
Phenols	0.2
*Selenium	0.01
*Silver	0.05
Temperature and rate of discharge not to elevate stream, after reasonable admixture above 90°F, except as permitted by Rule 1.04.	
*Zinc	1.0

Dissolved solids: Not to exceed 750 mg/l as a monthly average value, nor exceed 1000 mg/l at any time, from process sources. #
Radium-226 and Strontium-90 shall not exceed 3 and 10 pico-curies/liter respectively in the stream. In the absence of Strontium-90 and alpha emitters, the gross beta concentration shall not exceed 1000 pico-curies/liter.

*Heavy Metals

11. Storage facilities for materials which are hazardous to health and welfare, and for oils, gases, fuels, or other materials capable of causing water pollution if accidentally discharged, shall be located so as to minimize or prevent any spillage or leakage that might result in water pollution. Structures and devices to contain spillage, such as catchment areas, relief vessels, or entrapment-dikes, should be installed at existing facilities, shall be installed at all new facilities, and shall be required following any discharge resulting in pollution.

12. Guidelines Regarding Range of Treatment

    a. Tertiary or other advanced treatment or modifications of conventional treatment will be specified for all intermittent streams and for small or low-flow streams, and shall include effluent disinfection at least through the months of May to October.

Added material

b. Permissive Treatment and Effluent Requirements
(Based on Average Strength Municipal Wastes)

Type Treatment	BOD or ODI Reduction Percent	Effluent BOD, ODI mg/l	Suspended Solids mg/l	Type Facilities	Requirements
Secondary	90	20	25	*Activated Sludge	2 to 1
*(or trickling filter and supplemental treatment)					
Tertiary	95	10	13	Secondary plus Supplemental	1 to 1
Tertiary	98	4	5	Series units	Less than 1 to 1

Disinfection with up to 1 mg/l of chlorine residual in the effluent to reduce fecal coliform to 2000 or less.

Bypass flows in excess of waste treatment works capacity shall be given at least primary treatment and chlorination in auxilliary facilities.

c. Within design limitations, operation shall be of such quality to obtain the best possible degree of treatment from all treatment works. Every effort must be made to eliminate all system bypasses and overflows, otherwise measures must be taken to provide treatment units such as lagoons, detention or holding basins, and chlorination. Installation of new combined sewers are prohibited. Existing combined sewer systems should be patrolled; overflow regulating devices shall be adjusted to convey the maximum practicable amount of combined flow to treatment facilities. Excess infiltration into the sewer system should be eliminated to keep dry weather flow within design limits of conduits and treatment works.

ARTICLE II

Rule 2.01. These rules and regulations establishing water quality standards were adopted by the Sanitary Water Board June 28, 1968.

Rule 2.02. The changes and amendments denoted in italics and by symbols are hereby adopted March 5, 1968.

Rule 2.03. These rules and regulations designated as SWB-15, Chicago River and Calumet River Systems shall be in full force and effect on and after April 1, 1968.

Franklin D. Yoder, M. D., M.P.H.
Chairman, Sanitary Water Board

Attest:

Clarence W. Klassen
Technical Secretary
Sanitary Water Board

Dated: March 5, 1968

ILLINOIS SANITARY WATER BOARD
WATER QUALITY CRITERIA
CHICAGO RIVER AND CALUMET RIVER SYSTEMS
Supplemental Material August 1, 1967
to U. S. Department of Interior
Original Submission June 28, 1967

SUMMARY AND CONCLUSIONS

1. The Federal Water Quality Act of 1965 made it necessary to re-evaluate Illinois' stream pollution control procedures and establish, after public hearings, water quality criteria for interstate waters by June 30, 1967.

2. Criteria for water quality have been adopted by the Sanitary Water Board. All interstate waters in the Chicago area, based on the use concept, will be required to meet the standards, as adopted in final form after consideration of testimony and data presented at the hearing.

3. The water quality in the Chicago River is generally good. However, adequate dilution water is not available to assimilate treated effluents, in the balance of the interstate waterway system.

4. All sewered municipalities in the basin provide secondary treatment for sewage. Chlorination of sewage treatment plant effluents will be required to protect water quality for recreation and downstream uses of water supply. Chlorination of effluents is now provided at all municipal treatment works located on tributary intrastate streams.

5. Industries with direct discharge but inadequate treatment or control facilities, will need to provide adequate treatment by December 31, 1968.

6. It may be necessary for Metropolitan Sanitary District to provide advanced waste treatment techniques at the North Side, West Southwest and Calumet sewage treatment works, to meet the established criteria. Chlorination is required at the Lemont plant, the North Side plant and the Calumet plant by December 31, 1968. These facilities are under construction and will be operational before the deadline. Chlorination at the WSW plant by 1July 1972 is specified.

   Phosphate removal and advance waste treatment are required within the next ten years as practical methods are developed. Included in this period will be the interception and treatment of storm overflow from combined sewers and from pumping stations.

Pollution

The principal sources of pollution in the interstate waters are industrial wastes, municipal sewage, and combined sewer overflows. Other wastes discharged intermittently may have serious local effects or may cause temporary excessive pollution. Among these wastes are accidental spills from storage tanks and barges, wastes from lake vessels, barge tows, and pleasure craft, and materials from dredging operations.

All sewered municipalities have some combined sewers which contribute to pollution during periods of storm. Combined sewer overflows contribute gross bacterial pollution, high suspended solids concentrations, and heavy BOD loadings. Industrial wastes present in such systems contribute to the pollution problem.

The water quality in the Open Water of Lake Michigan is of excellent quality with the exception of periods of high threshold odors and increased concentrations of ammonia-nitrogen caused by industrial wastes.

Shore water except in the Calumet Harbor Basin is of good quality and generally satisfactory for whole body contact recreation. However, shore water within the Calumet Harbor Basin is of poor quality which is attributed to combined sewer overflows and industrial wastes discharges in this Basin. In addition, storm water overflows to Calumet River contribute to the poor water quality whenever there is a reversal of flow into Lake Michigan due to high intensity or prolonged rainfall. Reduction of combined sewer overflows or control facilities of storm overflows will be necessary. Currently, the overflow from the 95th Street pumping station is chlorinated.

Waters of the N & S Branches of the Chicago River, the Chicago Sanitary and Ship Canal and the Calumet River - Calumet Sag Channel System are unsightly and characterized by floating debris, oil, discoloration and high suspended solids loading. These waters are industrial process and cooling water, treated and chlorinated effluents from the Metropolitan Sanitary Districts treatment plants and combined sewer overflows. The industries with direct discharges to these waters and the status of their waste treatment or control facilities are shown on page 18. Further treatment of industrial wastes is necessary to enhance the water quality and to meet the criteria.

Present and Future Water Uses

Municipal and Industrial

Lake Michigan is the principal source of water both for municipalities and industrial plants. Industrial process and cooling water is obtained from Lake Michigan, the Calumet River and the Chicago River systems.

Recreational and aquatic

Lake Michigan serves the recreational needs of a large metropolitan area. There are many beaches both in Illinois and Indiana. Yachting, boating, water skiing, swimming and fishing abound in the southern portion of Lake Michigan. Wolf Lake is used for swimming, water skiing and fishing. The Little Calumet River-East and tributary streams are used for fishing and partial body contact sports. The entire waterways system is used for recreational boating and most of it for commercial shipping. All waters have some degree of recreational use.

Summary of Water Uses

1. Lake Michigan open water and Calumet Harbor Basin water will be required to be suitable for public and industrial water supply, maintenance of a well-balanced, warm-water fish population, water oriented recreation and will also be required to meet the standards as set forth in Regulations SWB 7, and SWB 15, respectively.

2. Lake Michigan shore water (including the existing bathing beaches) and Wolf Lake will be required to be suitable for maintenance of a well-balanced, warm-water fish population, whole body contact recreational activities and will also be required to meet the standards set forth in Regulations SWB 7.

3. The Grand Calumet River and Calumet River serve as sources of industrial water supplies and must meet the standards set forth in proposed Regulations SWB 7, and SWB 15, respectively.

4. The Little Calumet River flowing west from Indiana and that portion between the Calumet River and the Calumet-Sag Channel must be suitable for partial body contact recreation and aquatic life and will be required to meet the standards set forth in Regulations SWB 7, and SWB 15.

The Metropolitan Sanitary District of Greater Chicago

Municipal Waste Treatment Facilities

Area or Municipality	1960 Population	Treatment	Year Completed	Design Flow MGD	Present Flow MGD	Receiving Stream
Calumet Area	600,000	Secondary Activated Sludge Chlorinated Under Construction	1922	220	160	Calumet River Little Cal. River
North Side Area	1,230,000	Secondary Activated Sludge Experimental Chlorinated In operation	1928	300	290	No. Shore Channel
West-Southwest Area	2,920,000	Secondary Activated Sludge plus Wet Air Oxidation Not Chlorinated	1939	900	830	Sanitary & Ship Canal
Lemont	4,500	Trickling Filter Plus Chlorination	1961	660,000	0.560	Sanitary and Ship Canal
US COAST GUARD Station Chicago		Primary Settling plus Chlorination		Need Secondary		Chicago River
US Naval Armory Chicago		Primary Settling plus chlorination		Need Secondary		Chicago River
HUD Housing Lemont		No Treatment		Need Secondary Plus Chlorination		Sanitary and Ship Canal

MSD has listed 89 projects planned for construction from July 1, 1967 to June 30, 1973, necessary to provide adequate and improved treatment facilities, control works, and interceptor sewers.

INDUSTRIAL WASTE TREATMENT AND CONTROL FACILITIES

Chicago River and Calumet River Systems

Name and Address	Industrial Classification	Type of Treatment Waste Characteristics	Discharge GPD	Receiving Stream
Greyhound Bus Lines 901 N. Halsted Street	Maintenance & Garage	Catch Basin, Oil	1,000 E	Chicago River North Branch
Commonwealth Edison 1111 Cermak (Fisk)	Power Generation	None-Cooling Water Fly Ash - Alkalinity	709,000,000	Chicago River South Branch
Columbia Yacht Club Lake Michigan at Monroe Street	Private Club	Sedimentation Tank and Chlorination Organic (60 P.E.)	2,000	Lake Michigan
United States Steel Company 3226 East 89th Street (Calumet Harbor)	Basic Steel and iron	Oil, Acids, Solids	440,000,000	Lake Michigan (Cal. Harbor)
Clark Oil Refining 131st. Kedzie Ave. Blue Island, Ill.	Petroleum Products	Oil-Water Separator Oil-Chemical	40,000,000	Cal-Sag Channel
Gilbert & Bennett Blue Island, Ill.	Metal Fabrication	Neutralization Acid-Iron	73,000	Cal-Sag Channel
Illinois Central R.R. 135 E. 11th Place	Maintenance	Oil-Water Separator -Oil	60,000	Calumet River
Interlake Steel 135th St. & Perry Ave.	Basic iron & steel	Oil-Acid-Solids	48,000,000	Calumet River
Republic Steel 117th & Burley Ave.	Basic iron and steel	Oil-Acid Solids	85,000,000	Calumet River
United States Steel 3426 E. 89th Street	Basic iron and steel	Oil-Acid-Solids	17,800,000	Calumet River

INDUSTRIAL WASTE TREATMENT AND CONTROL FACILITIES

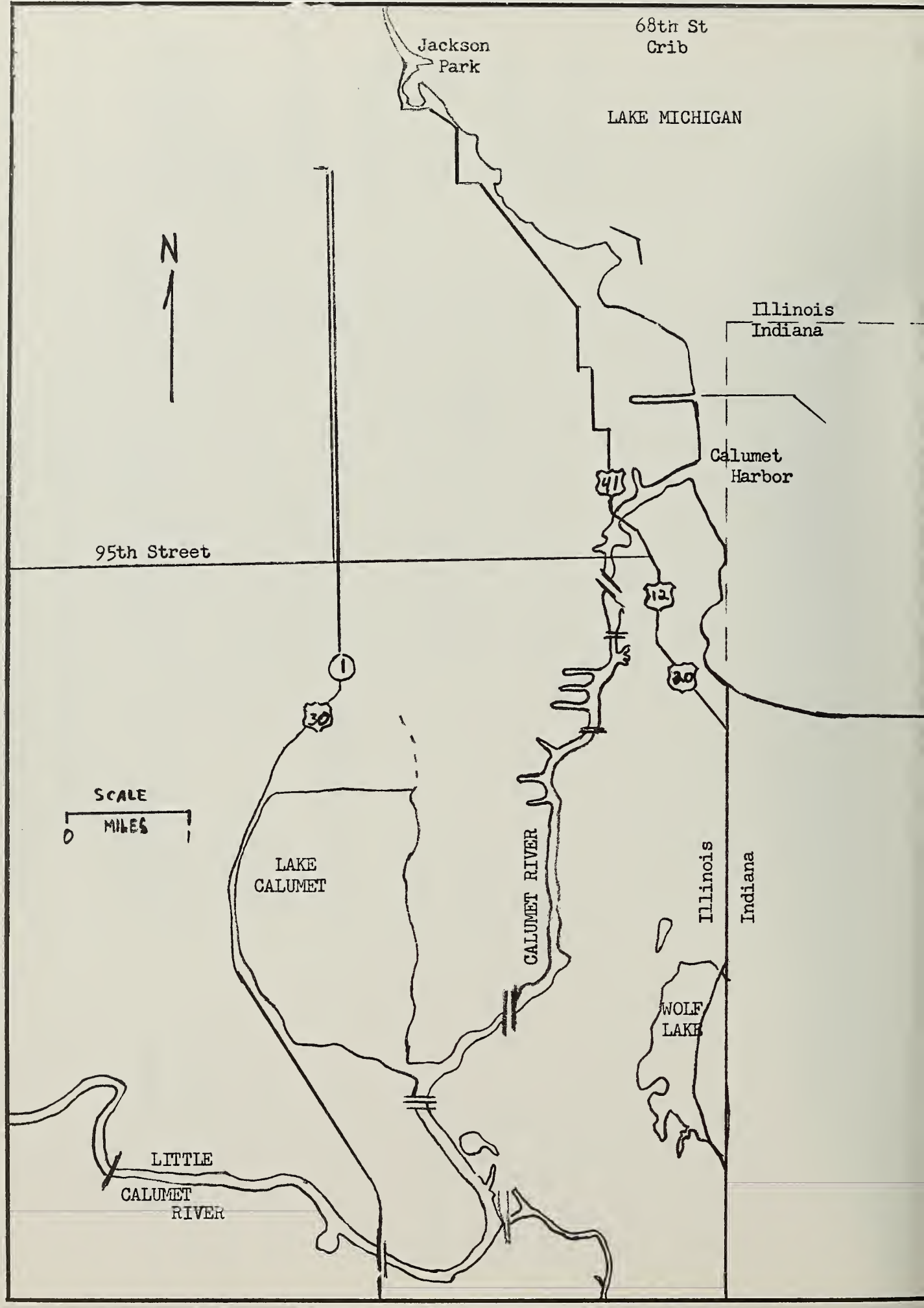
Chicago River and Calumet River Systems

Name and Address	Industrial Classification	Type of Treatment Waste Characteristics	Discharge GPD	Receiving Stream
Wisconsin Steel 106th & Torrence	Basic iron and steel	Oil-Acids-Solids	70,000,000	Calumet River
Interlake Steel 104th & Burley	Basic iron and steel	Oil-Acids-Solids	33,000,000	Calumet River
American Brake Shoe 2321 S. Hoyne	Metal Fabrication	None, Oil-Acid	10,000	Sanitary and Ship Canal
American Oil 5000 South Harlem	Petroleum	Oil-Water Separator, Oil	1,000 E	Sanitary and Ship Canal
Connelly, Inc. 3154 S. California Ave.	Basic iron products	Settling basins, Oil Sep. Solids bearing	2,000	Sanitary and Ship Canal
Corn Products 63rd and Archer	Food Products	Settling basins, High BOD 122,000 P.E.	20,000,000	Sewer overflow during rainfall
Fisher Body Works 79th & Willow Springs Rd.	Metal Fabrication	Domestic treatment plant Ind. Chem. precip. Clarifier Acid-Oil-Organic	550,000	Ditch to Sanitary and Ship Canal
Hannah Inland 107th St. & Rt. 83	Petroleum	None-Oil	None	Sanitary & Ship Canal
Humble Oil & Ref. 3301 S. California Ave.	Petroleum	None-Oil	None	Sanitary & Ship Canal
Lake River Terminals 5005 S. Harlem Ave.	Chemical Storage	None Chemical-Oil	10,000	Sanitary & Ship Canal
R. Lavin & Sons 3426 S. Kedzie Ave.	Metal Processing	None - Chemical	40,000	Sanitary & Ship Canal
Pure Oil Company 4801 Harlem Avenue	Petroleum	None- Oil	500 E	Sanitary & Ship Canal

INDUSTRIAL WASTE TREATMENT AND CONTROL FACILITIES

Chicago River and Calumet River Systems

Name and Address	Industrial Classification	Type of Treatment Waste Characteristics	Discharge GPD	Receiving Stream
North American Tank Car 77 S. Wacker Drive Lemont, Plant	Petroleum	None - Oil	100 E.	I. & M. Canal to Sanitary & Ship Canal
Richardson Chemical Lemont, Illinois	Chemical	Pilot Plant Operation Activated Sludge	250,000	I. & M.Canal to Sanitary & Ship Canal
Sante Fe R.R. Yards 3611 W. 38th St.	Maintenance Operations	Separator - Storm Water	5,000	Storm Sewer to San. Ship Canal
Trumbull Asphalt 5900 S. Archer St.	Petroleum	Separator with filtration through straw - oil	100	I & M Canal to San. & Ship Canal
U.B.S. Chemical Lemont Sag Road	Chemical	Holding tank chemical	5,000	I & M Canal to San.& Ship Canal
Witco Chemical 6200 W. 51st. St.	Chemical	None - Cooling Water	1,000	GMO Ditch - San.& Ship Canal


68th St
Crib
Jackson
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LAKE MICHIGAN
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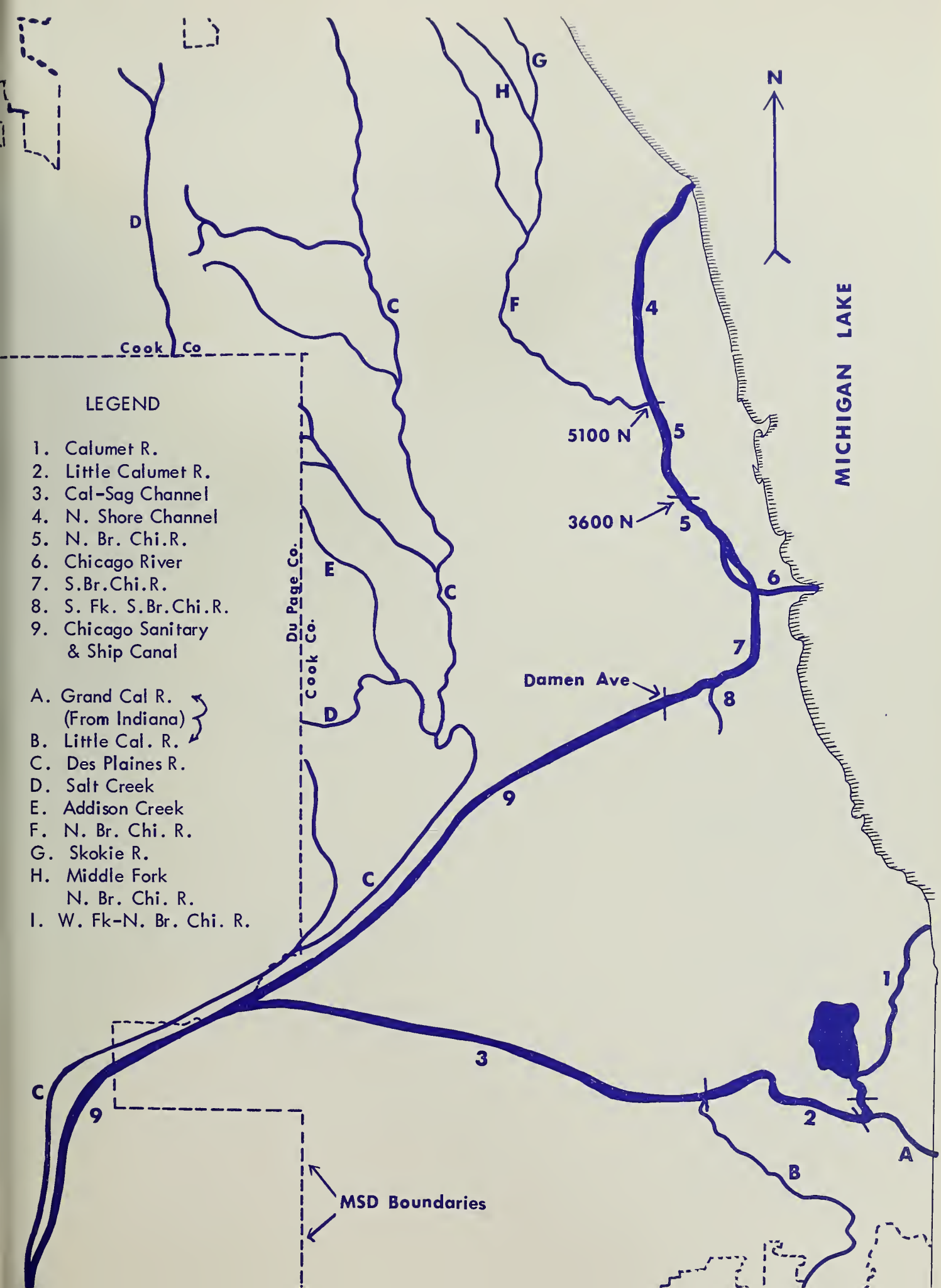
LEGEND
1. Calumet R.
2. Little Calumet R.
3. Cal-Sag Channel
4. N. Shore Channel
5. N. Br. Chi.R.
6. Chicago River
7. S.Br.Chi.R.
8. S. Fk. S.Br.Chi.R.
9. Chicago Sanitary & Ship Canal
A. Grand Cal R. (From Indiana)
B. Little Cal. R.
C. Des Plaines R.
D. Salt Creek
E. Addison Creek
F. N. Br. Chi. R.
G. Skokie R.
H. Middle Fork N. Br. Chi. R.
I. W. Fk-N. Br. Chi. R.
N
MICHIGAN LAKE
Cook Co
Du Page Co.
Cook Co.
5100 N
3600 N
Damen Ave
MSD Boundaries

STATE OF ILLINOIS

SANITARY WATER BOARD

RULES AND REGULATIONS

SWB – 18

CERTIFICATION OF WATER POLLUTION CONTROL FACILITIES FOR PROPERTY TAX TREATMENT

STATE OF ILLINOIS)
) SS
COUNTY OF SANGAMON)

I, Franklin D. Yoder, M.D., Chairman, Sanitary Water Board, State of Illinois, certify that the following rules SWB-18 "Certification of Water Pollution Control Facilities for Property Tax Treatment" have been prepared in accordance with the authority contained in "An Act to establish a Sanitary Water Board and to control, prevent, and abate pollution of the streams, lakes, ponds, and other surface and underground waters in the State, and to repeal an act named therein," (approved July 12, 1951, as amended) (Ch. 19, Pars. 145.1 et seq. IRS 1967), and shall be in effect ten days after filing with the Secretary of State, State of Illinois.

IN WITNESS WHEREOF,
I hereunto set my hand
and caused the Seal of
the Sanitary Water Board
to be affixed this 3rd
day of April, 1968.

Franklin D. Yoder, M.D.
Chairman
Sanitary Water Board
State of Illinois

ATTEST:

C. W. Klassen
Technical Secretary
Sanitary Water Board
State of Illinois

TABLE OF CONTENTS

		Page
FOREWORD (Authority)		1
ARTICLE I	**Purposes and Policies**	
Rule 1.01	Purpose	1
Rule 1.02	Policies	1
ARTICLE II	**Definitions**	
Rule 2.01		2
ARTICLE III	**Applications**	
Rule 3.01	Form and Content	2
Rule 3.02	Additional data	2
Rule 3.03	Prompt attention	2
Rule 3.04	Tax record identification	2
Rule 3.05	Number of applications	2
Rule 3.06	Status of installation	2
Rule 3.07	Need for facilities	2
Rule 3.08	Amendment	3
Rule 3.09	Facilities within the City of Chicago or the Metropolitan Sanitary District of Greater Chicago	3
Rule 3.10	Other local jurisdictions	3
ARTICLE IV	**General Provisions**	
Rule 4.01	Inspections	4
Rule 4.02	Permits	4
Rule 4.03	Priority	4
Rule 4.04	Delegate	4
ARTICLE V	**Procedures in Processing Applications**	
Rule 5.01	Filing	5
Rule 5.02	City of Chicago and the Metropolitan Sanitary District of Greater Chicago	5
Rule 5.03	Review of application	5
Rule 5.04	Copies of certificate	5
Rule 5.05	Other findings	5
Rule 5.06	Reporting	5
ARTICLE VI	**Complaints and Appeals**	
Rule 6.01	Complaints	5
Rule 6.02	Conferences	5
Rule 6.03	Hearings	6
Rule 6.04	Record	6
Rule 6.05	Appeal	6
RESOLUTION		7

STATE OF ILLINOIS

SANITARY WATER BOARD

RULES AND REGULATIONS

SWB – 18

CERTIFICATION OF WATER POLLUTION CONTROL FACILITIES FOR PROPERTY TAX TREATMENT

FOREWORD

Authority for Rules and Regulations relating to Certification of Water Pollution Control Facilities is granted to the Sanitary Water Board by Section 21a–5 of the "Revenue Act of 1939", as amended, approved August 14, 1967. In addition, general authority is granted by Section 6(b) of "An Act to establish a Sanitary Water Board - - -." Approved July 12, 1951, as amended.

ARTICLE 1
PURPOSE AND POLICIES

Rule 1.01 Purpose.

These rules and regulations are intended to outline procedures and requirements by which producers of water pollution potentials may apply for certification of property as a pollution control facility. When the property is found to qualify, the applicant may process the claim for property tax treatment in accordance with the "Revenue Act of 1939" as amended, and in accordance with Department procedures.

Rule 1.02 Policies.

(a) The Sanitary Water Board desires to carry out the intent of the statute wherein producers of wastes that pollute or are likely to pollute waters of the State, either by direct discharge or by indirect adverse reaction on sewer systems and sewage treatment works, receive favorable tax treatment for those real and personal properties devoted primarily to pollution prevention and control.

(b) As a consideration in certifying properties as pollution control facilities, the Board expects, but does not require for certification of such properties, that the facilities will be effective to a degree consistent with the state of the art of treatment or other control, and if performing less effectively than required by statute, standards, or rules and regulations, they promptly will be brought to proper effectiveness.

(c) The Board expects the producer to complete pollution control facilities promptly upon acquisition of components or start of construction, and to notify the Board upon completion, or if completion and operation are delayed.

(d) All parties concerned with certification are encouraged to make full use of the conference method before resorting to public hearings, to administrative review, or to other legal action.

(e) Applicants with facilities for the control of water pollution shall not expect certification if such facilities by reason of its treatment processes create air pollution problems.

(f) Certificates are subject to revocation if pollution control facilities are not operated continously.

ARTICLE II
DEFINITIONS

Rule 2.01

When used in these rules and regulations:

(a) "Revenue Act" means the "Revenue Act of 1939" filed May 17, 1939, as amended, and as further amended by Senate Bill 958, 75th General Assembly, approved August 14, 1967. (Chap. 120, Par. 482 et seq. IRS 1967).

(b) "Sanitary Water Board Act" means the "Sanitary Water Board Act of 1951", approved July 12, 1951, as amended. (Chap. 19, Par. 145.1 et seq. IRS 1967).

(c) The definitions in Section 2 of the Sanitary Water Board Act apply to all areas of the State. In Section 2 "Pollution" means such alteration of the physical, chemical or biological properties of any waters of the State, or such discharge of any liquid, gaseous or solid substance into any waters of the State as will or is likely to create a nuisance or render such waters harmful or detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate uses, or to livestock, wild animals, birds, fish or other aquatic life.

(d) The pertinent definitions in Section 1 of an "Ordinance for the Control and Abatement of Pollution of Water within the Metropolitan Sanitary District of Greater Chicago", adopted July 11, 1946 apply to areas under jurisdiction of the District.

(e) The pertinent definitions in Article II, Section 1 of "The Industrial Waste Ordinance of the Metropolitan Sanitary District of Greater Chicago" approved June 28, 1962, apply to areas under jurisdiction of the District.

(f) The pertinent definitions in Section 31 – 2.1, "Industrial Waste Ordinance" Chapter 31 of the Municipal Code of Chicago, effective August 25, 1966 apply to areas under jurisdiction of the City of Chicago.

(g) "Pollution control facilities" means those facilities defined in Section 21a–2 of the "Revenue Act of 1939", as amended by Senate Bill 958, (75th General Assembly). (Chap. 120, Par. 502a–2, IRS 1967).

(h) "Applicant" means any person who files an application with the Board for certification that a property is a pollution control facility in whole or in part.

(i) "Board" means the Sanitary Water Board.

(j) "Department" means the Illinois Department of Revenue.

(k) "Conference" means an informal meeting with the applicant and the Board or their representatives.

(l) "Public hearing" means an administrative hearing concerning certification in order that the Board may arrive at findings and a final determination.

(m) "Agency" means municipality, sanitary district, or other state-created entity, or interstate or federal authority.

ARTICLE III
APPLICATIONS

Rule 3.01 Form and content.

Applicants shall file applications in the form attached and made a part of these rules and regulations.

Rule 3.02 Additional data.

In addition to information prescribed in Section 21a-5 of the Revenue Act, the applicant is expected to provide sufficient data to support his claim and to assist the Department to respond to action in tax treatment.

Rule 3.03 Prompt attention.

When reviewing the application the Board shall use all available data, and to expedite processing of a certificate may rely within a defensible position on the good faith of the applicant.

Rule 3.04 Tax record identification.

Each facility must be identified by reference to the local tax record system.

Rule 3.05 Number of applications.

A part of this application shall be devoted to identification of the location of the pollution control facilities, and each facility or related group of facilities at this location shall be described.

Rule 3.06 Status of installation.

Applications will not be certified if pollution control facilities are not purchased or are not under construction.

Rule 3.07 Need for facilities.

In justification for the need for the claimed pollution control facilities, the applicant shall identify the agency and include reference or quotation, either or both, to the statute, or to the standard or precept of the agency requiring the facilities. If facilities were installed not only for pollution control but also to fulfill some other demand or policy, an explanation shall be made.

Rule 3.08 Amendment.

An amendment to the application may be submitted in the same manner as the application and shall become a part of it.

Rule 3.09 Facilities within the City of Chicago or the Metropolitan Sanitary District of Greater Chicago.

The Board may request and receive from the City of Chicago or from the Metropolitan Sanitary District of Greater Chicago information relating to claimed pollution control facilities located in the appropriate jurisdiction, and may use such information in evaluation of the application.

Rule 3.10 Other local jurisdictions.

Recommendations by local officials in the identifications and need for pollution control facilities are an acceptable part of the application.

ARTICLE IV
GENERAL PROVISIONS

Rule 4.01 Inspections.

(a) The Board may arrange for an inspection of any claimed pollution control facility to ascertain its eligibility for certification or to make a determination on a previous finding.

(b) Agencies recommending approval of a facility will indicate whether an inspection has been made.

Rule 4.02 Permits.

Facilities required to have a permit prior to installation will be accepted for eligibility when identified by permit number, date, and agency. Unless clearly inadequate, sketches of the facility are preferred to the complete plans and specifications filed as a condition of the permit.

Rule 4.03 Priority.

Pollution control facilities, owned by one applicant, having a fair cash value greater than $1000 will be processed at a higher priority than those of lesser value.

Rule 4.04 Delegate.

The Staff members authorized to act for the Chief Sanitary Engineer may also be authorized to act for him as Technical Secretary on certification matters in his absence or other unavailability. The Board upon resolution may also delegate other persons with authority to enter findings and to issue certificates.

ARTICLE V
PROCEDURES IN PROCESSING APPLICATIONS

Rule 5.01 Filing.

Applications normally shall be submitted directly to the Board.

Rule 5.02 City of Chicago and the Metropolitan Sanitary District of Greater Chicago.

In order to expedite processing, application for facilities located in the City of Chicago or in the Metropolitan Sanitary District of Greater Chicago may be routed through the appropriate jurisdiction for verification of the pollution control facility, and for an opinion of its primary purpose in pollution control. Recommendations or documents from these agencies in support of a claim may be submitted as attachments in lieu of routing applications through the agencies.

Rule 5.03 Review of application.

The technical staff serving the Board has authority to review applications.

Rule 5.04 Copies of certificate.

A copy of the certificate shall be sent to the applicant and to the Department. Thereupon the Department will act according to its established procedures.

Rule 5.05 Other findings.

Any final determination of the Board shall be made known to the Department. When either the Board or the Department detects erroneous findings of the other, it shall make this information known to its counterpart.

Rule 5.06 Reporting.

When requested by either the Board or the Department, a list of applicants and findings, including certifications, shall be made available to the requesting Board or Department.

ARTICLE VI
COMPLAINTS AND APPEALS

Rule 6.01 Complaints.

An applicant may request, within ten days of receipt of a decision from the Board, a conference to discuss a finding in which the applicant believes he is aggrieved.

Rule 6.02 Conferences.

When a conference is indicated it preferably shall be held within 20 days of the date the request has been received, at a mutually agreeable time and place.

Rule 6.03 Hearings.

When a conference fails to resolve differences, the applicant may request a hearing. The hearing will be held in the manner prescribed by the most current Board Hearing Rules except that between Board meetings the Board Chairman, or in absence of the Chairman, a member of the Board may appoint the hearing officer. The hearing place and time should be mutually convenient, if possible, but the ten calendar day's notice of hearing may be waived by the applicant.

Rule 6.04 Record.

Testimony at a hearing may be recorded on magnetic tape or other device and may be transcribed when requested within one year of the hearing and the expense of transcribing is paid for by the person requesting the record.

Rule 6.05 Appeal.

Appeal from the findings and determinations of the Board following a hearing may be made according to the Statute. Appeal from the findings of the Department shall be made to the Department.

Resolution 68-2
Rules and Regulations
SWB-18 Certification
of Water Pollution
Control Facilities for
Tax Treatment

RESOLUTION

BE IT RESOLVED, that the Sanitary Water Board by authority of Section 6 of the Sanitary Water Board Act of 1951 (Par. 145.6, Ch. 19, Ill. Rev. Stats. 1967) hereby adopts Rules and Regulations SWB-18, pertaining to Certification of Water Pollution Control Facilities for Property Tax Treatment.

Franklin D. Yoder, M.D., M.P.H.
Chairman
Sanitary Water Board
State of Illinois

ATTEST:

Clarence W. Klassen
Technical Secretary
Sanitary Water Board
State of Illinois

Adopted: April 3, 1968.

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RULES AND REGULATIONS
FOR THE DISPOSAL OF SEWAGE AND WASTES FROM WATERCRAFT

SWB-19

AUTHORITY

Pursuant to the authority contained in Section 6 (b) of an Act to establish a Sanitary Water Board and to control, prevent and abate pollution of the streams, lakes, ponds, and other surface and underground waters in the State (Approved and in force July 12, 1951, Par. 145.6, Ch. 19, Ill. Rev. Stat. 1967), the Sanitary Water Board adopts the following Rules and Regulations for the disposal of sewage from marine toilets.

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ARTICLE 1

Rule 1.0 Definitions

For purposes of these Rules and Regulations, unless the context clearly requires a different meaning:

1.1 "Watercraft" includes every description of watercraft, other than a seaplane, on the water, used or capable of being used as a means of transportation on water.

1.2 "Sewage" means all human body wastes.

1.3 "Litter" means bottles, glass, crockery, cans, scrap metal, junk, paper, wood, dunnage, garbage, rubbish, plastic, or similar refuse discarded as no longer useful or useable.

1.4 "Marine Toilet" means any toilet on or within any watercraft.

1.5 "Waters of the State" means all of the waterways on which watercraft shall be used or operated; and as defined in the Sanitary Water Board Act.

1.6 "Person" means an individual, partnership, firm, corporation, association, or other entity.

1.7 "Owner" means the person who has lawful possession of a boat by virtue of legal title or equitable interest therein which entitles him to such possession.

1.8 "Board" means the Illinois Sanitary Water Board.

1.9 "Waste" means contaminated bilge and ballast water from commercial vessels.

Rule 2.0 Littering or Polluting Water - Restrictions

Restrictions on placing, throwing, depositing or discharging litter into waters of this State are contained in Section 20, Fish Code of Illinois (Ill.Rev.Stat.,

Rule 2.0 continued

Chap. 56, Par. 160). The applicable paragraph follows:

> "It is unlawful for any person to abandon, deposit or cast any wire, can, bottle, glass, paper, trash, rubbish, cardboard, wood cartons, boxes, trees, parts of trees, brush or other insoluble material, including animal or vegetable material, into the waters or upon the ice of any waters of the State, or in any place on the bank of waters of the State, where it shall be liable to be washed into the waters either by storms, floods or other causes."

Rule 3.0 Marine Toilets - Restrictions

3.1 No marine toilet on any watercraft used or operated upon waters of this State shall be operated so as to discharge sewage into said waters, directly or indirectly, unless the sewage has been rendered non-pollutional by passage through a device approved by the Board.

3.2 No person owning or operating a watercraft with a marine toilet shall use, or permit the use of, such toilet on the waters of this State, unless the toilet is equipped with facilities that will treat, hold, incinerate or otherwise handle sewage in a manner capable of preventing water pollution. All marine waste-treatment systems shall be sealed or otherwise rendered inoperative on waters where use of such systems is prohibited by federal, state or local regulations, or upon State-Federal impoundment reservoirs in Illinois.

3.3 No person shall dispose of sewage, accumulated in a holding tank or any other container on a watercraft, in such manner that the sewage reaches or may reach the waters of the State, except through a sewage disposal facility approved by the Board, and in operating condition.

Rule 4.0 Marine Toilets - Pollution Control Devices

4.1 After the effective date of this Act, every marine toilet on watercraft used or operated upon waters of the State shall be equipped with a pollution control device in operating condition approved by the Board.

4.2 Pollution control devices that are acceptable for purposes of this Act are:

4.21 Holding tanks which retain toilet wastes for proper disposal pursuant to Rule 3.3.

4.22 Incinerating devices which will reduce to ash all sewage and toilet wastes produced on the watercraft. Ash is to be disposed of on shore - not to waters of the State.

4.23 Any other device determined by the Board to be effective in preventing pollution from marine toilets.

ARTICLE 1

Rule 5.0 Waste control from Commercial Vessels

Contaminated and pollutional bilge or ballast waters shall be discharged only to appropriate shore facilities.

ARTICLE 11

Rule 1.0 Enforcement

Enforcement shall be in accordance with procedures of the Illinois Sanitary Water Board Act, (Ill.Rev.Stat.,Chap. 19, Par. 145.1 to 145.18), and in accordance with Section 317-6 of the Boat Registration and Safety Act (Ill.Rev.Stat.,Chap. 95-1/2, Par. 311-1 to 323-1).

Rule 2.0 Effective Date

The provisions of these rules and regulations with reference to requiring watercraft with toilet facilities to be equipped with pollution control devices shall take effect January 1, 1970.

Franklin D. Yoder, M.D., M.P.H.
Chairman, Sanitary Water Board
State of Illinois

Attest:

Clarence W. Klassen
Technical Secretary
Sanitary Water Board

Dated: July 2, 1968

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